THE EFFECT OF QUALITY MANAGEMENT IMPLEMENTATION ON ORGANIZATIONAL PRODUCTIVITY: CASE STUDY OF KENYAN ENGINEERING FIRMS

BY

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UNITED STATES INTERNATIONAL UNIVERSITY-AFRICA

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THE EFFECT OF QUALITY MANAGEMENT IMPLEMENTATION ON ORGANIZATIONAL PRODUCTIVITY: CASE STUDY OF KENYAN ENGINEERING FIRMS

BY

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A Research Project Report Submitted to the Chandaria School of Business in Partial Fulfillment of the Requirement for the Degree of Master of Science in Organizational Development (MOD)

UNITED STATES INTERNATIONAL UNIVERSITY-AFRICA

SUMMER 2017
STUDENT DECLARATION

I, the undersigned declare that this is my original work and that it has not been submitted to any other College, Institution or University other than the United States International University for academic purposes.

Signed: __________________________  Date: __________________________

Paul O. Datche (ID 648393)

This project has been presented for examination with my approval as the appointed supervisor.

Signed: __________________________  Date: __________________________

Fred O. Newa

Signed: __________________________  Date: __________________________

Dean, Chandaria School of Business
ABSTRACT

The general objective of the study is to investigate the effect of QM on the productivity. The study sought to realize three objectives, namely; to investigate the effect of QM on staff performance of Kenyan engineering firms, to determine the influence of QM on customer satisfaction of Kenyan engineering firms, and to examine the effect of QM on organizational processes of Kenyan engineering firms.

The study employed the use of an explanatory research design. The population for the current study comprised of 60 engineering firms operating in Nairobi of which 53 were sampled for the study. The researcher used simple random sampling technique to collect data from the target population. The data collection method was the use of structured questionnaires and each questionnaire comprised of 38 questions. The quantitative method of data analysis used was both descriptive and inferential analyses. Further associations between the variable were conducted by the use of Statistical Package for Social Sciences (SPSS) program, through which Correlations, ANOVA and regression were conducted among relevant variables to permit further interpretation of the data.

The study found that virtually all the sampled firms had implemented QM with 95% of the respondents indicating their organization had QMS. It established that the QMS were used in almost all the operational areas with 71.4% indicating that the systems were used in all areas and 23.8% indicating that QMS was used in “Design and Project Management”. The study established that Employee Motivation” was the most highly ranked aspect of organizational performance affected by QMS with 73.8%, followed by “Employee Participation in Management” with 71.4%, while “Employee Satisfaction” was ranked last with 59.5%. The study found that the majority of the respondents 66.7% thought the effect of QMS on their overall participation was positive and 61.9% considered QMS to have a positive impact on their morale towards task performance.

It established that 64.3% of the respondents thought QMS had a high impact on customer loyalty. It found that 83.3% and 4.8% of the respondents thought the effect of QMS on customer satisfaction with the firm was high and low respectively. The study made the following findings concerning the effect of QMS on organizational processes. The study found that 71.4% and 4.8% of the respondents considered effect of QMS on communication within the firm to be high and low respectively. It found that 59.5% and 2.4% of the respondent viewed QMS to have a high and low impact respectively on Firm’s
communication with customers. It further established that while 9.5% of respondents perceived effect of QMS on organizational learning to be low, 81% considered it high.

A correlation analysis was carried out between QMS and staff performance, customer satisfaction and organizational processes to determine the nature of the relations between QMS and each of the three dependent variables. The study found that Pearson correlation co-efficient values for QMS and staff performance, customer satisfaction and organizational processes were; \( r = .274, p < 0.01 \), \( r = .599, p < .05 \) and \( r = .304, p < 0.01 \), indicating that each of the variables was positively correlated with QMS and that customer satisfaction had the strongest positive association with QMS of the three variables. A regression analysis was also done to assess the effect of QMS on organizational productivity. It was found that the R Square value for the model was .391 indicating that 39.1% of the variance or change in the model is accounted for by staff performance, customer satisfaction and organizational processes. The study established that QMS (the independent variable) predicts the dependent variables (Staff Performance, Customer Satisfaction and Organizational Processes), \( F(3, 38) = .000 \). This means that the model has explanatory power that is QMS help account for organizational productivity.

The study concludes that, QMS accords modern firms a means of enhancing staff performance. It also concludes that QMS provides a vital means of achieving customer satisfaction and loyalty. It further concludes that QMS augments and enhances organizational processes leading to smooth running of the firm resulting in enhanced levels of productivity and performance.

The study recommends that, human resource managers and the leadership in the engineering consultancy firms need to embrace and implement QMS as it enhances staff performance. It also recommends that management and leadership of the engineering consultancy firms in Kenya need to acknowledge and embrace QMS for its potential positive effects on customer satisfaction. That future researchers should examine the effect that QMS has on other aspects of organizational performance such as competitive advantage, product and service quality as well financial performance.
ACKNOWLEDGEMENTS

I would like to acknowledge my project supervisor, Dr. Newa Fred, without whose intellectual support I would not have completed this study. I would also like to acknowledge and thank my family in general for their moral and financial support during the course of this study.
DEDICATION

It is with great humility that I dedicate this work to God without whose help I would not have made it this far.
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<tr>
<th>Abbreviation</th>
<th>Full Form</th>
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<tr>
<td>AAK</td>
<td>Architectural Associations of Kenya</td>
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<tr>
<td>ASEK</td>
<td>Association of Consulting Engineers of Kenya</td>
</tr>
<tr>
<td>BORAQS</td>
<td>Board of Registration of Architects and Quantity Surveyors</td>
</tr>
<tr>
<td>EBK</td>
<td>Engineers Board of Kenya</td>
</tr>
<tr>
<td>ISK</td>
<td>Institute of Surveyors of Kenya</td>
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<tr>
<td>IQSK</td>
<td>Institute of Quantity Surveyors of Kenya</td>
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<tr>
<td>PDM</td>
<td>Participatory Decision-Making</td>
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<td>QM</td>
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<td>QA</td>
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CHAPTER ONE

1.0 INTRODUCTION

1.1 Background of the Problem

The competitive nature of the contemporary business environment has conditioned customers to seek and demand for quality in goods and services that they purchase. The customers demand for superior quality of goods and services is currently the norm rather than the anomaly (Jaafreh & Al-Abedallat, 2013). Khan (2013) posits that the diminishing trade barriers in addition to the intense competition among firms have created a scenario in contemporary business milieu in which firms are increasingly finding it infeasible to sustain a market share. Technology has exacerbated the competition; the advances in technology have not only facilitated information flow but have also resulted in a paradigm shift in the modes of production and ways of providing services. This has happened in utter disregard for conventional barriers to trade resulting in intense competition for market share among firms (Khan, 2013; Abdul-Aziz, Al-Qahtani & Alsherri, 2015).

In response to this demands, firm and enterprises have adopted or are adopting benchmarking practices and quality management practices (QM) to assure their customers of quality of their products and services, and value for money (Jaafreh & Al-Abedallat, 2013). Firms that pursue QM strategies focus or center on realizing and sustaining high quality outputs, they use management practices as inputs, while the quality performance are the outputs. According Davood, et al., (2013), QM implies systematic approach to quality management for organization-wide management aimed at improving performance with respect to customer satisfaction, productivity, profitability and product of service quality. It is a management philosophy, which seeks to enhance improvement in productivity and quality through the empowerment of firm’s members (Abdul-Aziz, et al., 2015).

Globally, the significant rise in demand for quality practice in the delivery of goods and services has also placed an ever increasing strain on organizations to meet stringent requirements in order to satisfy both government regulations and consumer demands. However, it was not until the mid to late 20th century (Kinicki & Keitner, 2017), that the birth of Quality Management theory was realised when Edwards W. Deming developed his
QM theory. The changing conditions of the market place demands higher quality output of products and services as and commitment from service providers. The need for ensuring high quality productive environments is the key to realization of this objective.

The changing conditions of the market place demands higher quality output of products and services as and commitment from service providers. The need for ensuring high quality productive environments is the key to realization of this objective. Globally, the significant rise in demand for quality practice in the delivery of goods and services has also placed an ever increasing strain on organizations to meet stringent requirements in order to satisfy both government regulations and consumer demands.

Current, QM and its four underpinning dimensions have gathered wide acceptance and audience in various countries all over the world. In today’s workplace, defect prevention in quality assurance differs subtly from defect detection and rejection in quality control, and has been referred to as a “shift left” as it focuses on quality earlier in the process than later ([Larry, Smith], 2001). Regarding the consultancy field, this alludes directly to “avoiding mistakes and doing work perfectly well first time in the process of meeting the needs of a customer”.

In Japan, the Japanese have made it a central pillar of their industries (Kinicki & Kreitner, 2017). In North America, especially in the USA and Canada, as well as in Europe especially within the Shengen regions (within the European Union) QM is accepted as process of grave competitive, performance and productive value in all business sectors. In New Zealand and Australia, studies have shown that QM practices bear a cross-sectional significance in relation to performance and productivity (Manjunath & Kumar, 2013). Some studies have also recorded increasing adoption of QM and its corollary dimensions QC, QA, QP and QI in Asian counties such as Malaysia, Singapore, Thailand and Philippines. In South America, countries such as Brazil and Argentina has witnessed a significant growth in the implementation of QM by business corporations in a bid to ensure efficiency in the organizational processes and to obtain and sustain market share amidst competition (Davood, et al., 2013; Jaafreh & Al-Abedallat, 2013).

The quality management (QM) is the organizational or firm structure, process; resources and procedures that are needed to obtain quality (Sterns, et al., 2011). The systems are aimed at forestalling quality problems and ensuring that products and services of the system
conform to firm’s expected standards. QM practices have been proposed to have the potential of improving organizational productivity and performance and as such have received a lot of academic and analytic attention in research and surveys (Jaafreh & Al-Abedallat, 2013).

Africa has not been left behind in this seeming global drive for the adoption of QM practices. In Africa, countries such as South Africa, Kenya, Egypt, Nigeria and Ghana among others have seen corporations adopt QM practices among their *modus operandi* George, Muigai and Nyakwara (2013). In the last decade a lot of Kenyan organizations also began embracing forms of Quality Management practices, with growing awareness of the impacts of human activity on the environment taking centre stage, tied in with the need to reduce the carbon footprint of manufacturing and other industrial processes (Gudo, Oanda & Oele, 2012).

In Kenya, while not being as robust as the survey, civil and structural engineering consultancy sectors in the developed world, is very well established by African standards. The engineering market in Kenya is well established and comprises of different branches of engineering or specialization including land surveying, architecture, civil engineering, structural engineering and quantity surveying (Omufura, 2001). According to figures obtained from the Engineers Board of Kenya (EBK) and the Board of Registration of Architects and Quantity Surveyors (BORAQs), there were 110 quantity surveyors, 130 architects and 60 engineering firms in Kenya as of December 2015 (Gitau, 2016).

Some of the most dominant survey, civil and structural engineering consultancy firms in Kenya include; Gathara and Partners, SMEC Kenya, Britech Consulting, TerraConsulting Kenya, VEX Engineers, Howard Humphreys (EA) Ltd, GIBB International and CAS Consulting in the structural engineering sector. In the civil engineering sector there is A. Jiwa Shamji, Atkins, Jacobs, Aegis Construction Ltd, Associated Construction Co. (K) Ltd and Kato Consulting among others. In the Land and Quantity Surveying sector, there is Adams Consulting, Aegis Development Solutions Ltd, Africost Kenya Consulting Quantity, Acme Land Surveyors & Consultants, Alliance Land Surveys Ltd, Arch Surveys and Ardi Surveys Consultants among others. This implies that the industry is big and that there exists a lot of peer competition among the firms.
The different specializations of engineering are belong to various professional associations and are regulated different authorities. The professional associations and regulatory bodies for the engineering professions include; the Institute of Quantity Surveyors of Kenya (IQSK), the Institute of Surveyors of Kenya (ISK), the Architectural Associations of Kenya (AAK), the Association of Consulting Engineers of Kenya (ACEK) as well as the EBK and the BORAQs. The analyses of how QM contributes to organizational productivity in the survey, civil and structural engineering consultancy firms in Kenya are lacking. Omware, Nyonje and Benard (2014) contend that existing academic literature, which have analyzed the connection between QM and organizational productivity in Kenya greatly ignore survey, civil and structural engineering consultancy sector. Gwaya, Masu and Oyawa (2014) observe that there is great disagreement about practitioners and scholars on how the impact of quality on productivity of the survey, civil and structural engineering consultancy firms is to be measured.

This could lend an explanation to the low adoption of QM practices in the civil engineering sector in Kenya as Oakland and Aldridge (1995) have noted. Omufura (2001), for instance, observes that very few firms in the construction industry in Kenya have adopted QM practices. This is notwithstanding the fact that the robustness of this industry implies that there is intense competition among the firms for Kenya’s market share. A market in which the QM practices would lend the practicing firms greater advantage vis-à-vis non-adopting firms. As Jaafreh and Al-Abedallat (2013) contend QM offers a great deal of wading competition by achieving and sustaining a competitive edge.

Therefore, the lack of literature and studies regarding the adoption and impact of QM practices on the productivity of civil engineering industry is worrying and warrants the current study. This study intends to conduct a research on the effect of QM on productivity of Kenyan civil engineering firms. In so doing, the study will contribute information and literature that will facilitate the filling of the information gap regarding the problem. It will further facilitate the understanding the link between QM and productivity in consultancy and service firms.

1.2 Statement of the Problem

Despite its importance to productivity, efficiency and performance the concept of QM is highly ignored within the fields of survey, civil and structural engineering consultancy.
Oakland and Aldridge (1995) argues that the survey, civil and structural engineering consultancy sectors do not seem to understand and appreciate the concept of QM. For instance, Gudo, et al., (2012) as well as George, et al., 2013) contend that in Kenya QM is mostly examined in terms of its application in the in non-engineering product and service industries including the education sector. In fact, the few academic sources that exists regarding QM examine it in general terms and mostly in relation to higher education with little attention going to the analyses of QM practices in the civil engineering industry in Kenya.

Customer satisfaction, organizational processes and staff performance are among the critical aspects of any organization. All these processes are affected by QM practices within the firm. QM practices affect customer satisfaction for survey, civil and structural engineering consultancy firms in Kenya in that enhancing the quality of the services and the speed by which customers are given those services. Furthermore, QM influences the service and product improvement and change, which further facilitate customer satisfaction. Nonetheless, academic analyses into how QM influences customer satisfaction for firms offering survey, civil and structural engineering consultancy services are lacking (Gitau, 2016).

Furthermore, QM has a positive influence on the firm’s staff productivity in that it contributes to employee motivation (Osabiya, 2015), employee empowerment (Khan, 2013), employee satisfaction (Ngambi & Nkeniafu, 2015) and it also enhances participative management by employees (Jha, 2012). However, due to the limited studies on the impact of QM on Kenya’s the survey, civil and structural engineering consultancy firms, the nature of association between QM and staff productivity in this firms is not yet clear.

According to Hussein (2013), quality management has a positive outcome for the organizational processes in the firm, which in turn results in greater productivity. QM facilitates communication within the firm (Orgbari & Taiye, 2015), decision-making process (Jha, 2012), organizational learning (Chen-Ying & Hsu-Hua, 2015) and the strategic planning (Musr, et al., 2013). Like is the case with the impact of QM on customer satisfaction and staff performance research on how QM influences organizational process in the survey, civil and structural engineering consultancy firms in Kenya is limited making it hard to understand the issue.
As such, the study seeks to find answers to the following questions: how does QM implementation of QM influence QM on staff performance of Kenyan engineering firms? In what ways does QM affect customer satisfaction of Kenyan engineering firms? Moreover, how does QM implementation effect on organizational process management of Kenyan engineering firms?

1.3 General Objective

The general objective of the study is to investigate the effect of QM on the productivity.

1.4 Specific Objectives

1.4.1 To examine the effect of QM on organizational processes of Kenyan engineering firms.

1.4.2 To determine the influence of QM on customer satisfaction of Kenyan engineering firms.

1.4.3 To investigate the effect of QM on staff performance of Kenyan engineering firms.

1.5 Significance of the Study

The study may be significant to the following stakeholders.

1.5.1 Employee of Survey, Civil and Structural Engineering Consultancy Firms

The employees of the selected survey, civil and structural engineering consultancy firms in Nairobi stand to benefit from the study in several ways. The study equips the employees and staff with vital information concerning the importance of QM in facilitating organizational productivity. This further allows the employees to embrace QM and QM system (or QMS) for its productivity value, which is also important to the employees. In so doing, the study enhances employees’ embrace of the QMS and reduce their level resistance and indifference towards that QMS. Furthermore, the study allows the employees to contribute towards the improvement of the QA and draw a sense of belonging to the firm as key stakeholders in their firm’s performance. The study enables the employees to consider the implication of the QM to their performance as staff members and further facilitate their motivation and embrace for QM.
1.5.2 The Management/Leadership of Survey and Engineering Consultancy Firms

The study may also be of indispensable importance to the organizational leadership and top-level management, as it facilitates greater understanding and embrace of QM by the leadership. It augments leaderships or management’s intelligence concerning the link between organizational productivity and QM. In so doing the study also provides the leadership with information from an outsiders’ perspective on the contributions or otherwise, of the QMS on their firm’s performance. It further allows the top management to re-evaluate QM’s value for organizational productivity. This information may be crucial in facilitating improvement in general organizational competitive strategy regarding QM.

1.5.3 Businesses in Other Sectors

The study is important to other firms in addition to the sampled firms. The study provides important information regarding the influence of QM and QMS on organizational performance, which is important to other firms in other sectors apart from the engineering fields which was the focus of the study. Such information adds to top-management’s intelligence on the importance of QM and QMS in productivity and achieving a competitive edge against competition. The firms that have not embraced QMS may find inspiration from the study to do implement the process. Other firms that have implemented QMS may also use the information generated by the study to benchmark on their progress and institute re-adjustments in their QMS where necessary.

1.5.4 Researchers and Academicians

The primary importance of the study to academicians and future researchers is that it contributes to the narrowing of the literature gap stated in the analyses of the nexus between QMS and organizational productivity in Kenya as highlighted in the problem statement. It further contributes to debates surrounding QMS practices in Kenyan organizations especially concerning its productivity value and provoke the question as to why this great style of managing workflow processes is not commonplace. This should form the basis for future exploratory research. The study also builds on the existing theories and models related to QM such as QMS Lean, Six Sigma, Lean Six Sigma, among others.
1.6 Scope of the Study

The concepts of focus for the study are quality management and organizational productivity. The study examined these two concepts with respect to their application within the business context and it sought to determine how QM affects productivity. The study focused on selected Kenyan Engineering firms in Kenya and concentrated on determining how QM has influenced their productivity. The aspects of productivity, which were examined in this regard, included impact on staff performance, customer satisfaction and organizational processes. The study comprised of a mixture of qualitative and quantitative approaches. The qualitative involved a focused assessment of secondary source of information including peer-reviewed articles, books and press releases by relevant organizations. The qualitative approach was the backbone of the literature view and formed part of the background and the discussions of findings. The literature review comprised of materials published within the last five years the aim of which was to ensure academic and contextual relevance to current study. The primary or quantitative aspect comprised of data collection from relevant sources in the target populations (engineering firms) operating within Nairobi. The primary data was collected using structured interview schedules over a two-week period between July and August 2017.

1.7 Definition of Terms

Following are definition of key terms and concepts that used on several instances in the course of the study.

1.7.1 Leadership

Leadership is associated with the exercise or power and refers to the capacity to exercise legitimate authority over a person or a group of people, to inspire and to give direction to the people who are being led (Olufunke, Joseph & Adetayo, 2012).

1.7.2 Customer Satisfaction

Customer satisfaction implies the extent to which customers derive gratification, from conducting business with the firm and their post-purchase evaluation of the product or services as meeting their expectations (Giese & Cote, 2000).
1.7.3 Employee Empowerment

Chang, Chiu and Chen (2013) conceptualize employee empowerment as a process of improving feelings or sentiments of self-efficacy among a firm’s employees through the identification and removal or limiting of conditions, which generate powerlessness.

1.7.4 Processes of an Organization

Simply defined, Processes of an Organization or organizational process refers to the entirety of procedure and activities that take place within the firm including, management, communication, decision making, strategic planning, sales, marketing among others (Sterns, et al., 2011).

1.7.5 Productivity

Productivity refers to the efficient and effective use of the entirety of firm’s available resources, plant, labour and materials (Shetty, 2016).

1.7.6 Quality

Quality refers to the level of product, service or process’s conformity to customer expectation and organizational goals (Shetty, 2016). In the context of the study, quality refers to the extent to which the services the engineering firms accord their customers in services.

1.7.7 Quality Assurance

According to the American Society for Quality, “Quality Assurance” (QA) comprises the administrative and procedural activities implemented in a quality system so that the requirements and goals for a product, service or activity are fulfilled (Al-Qahtani & Alsheri, 2015).

1.7.8 Quality Control

Quality control (QC) is a procedure or set of procedures intended to ensure that a manufactured product or performed service adheres to a defined set of quality criteria or meets the requirements of the client or customer. QC is similar to, but not identical with, quality assurance (QA) (Sterns, et al., 2011).
1.7.9 Quality Management

Quality Management (QM) implies systematic approach to quality management for organization-wide management aimed at improving performance with respect to customer satisfaction, productivity, profitability and product of service quality (Davood, et al., 2013). It is a management philosophy, which seeks to enhance improvement in productivity and quality through the empowerment of firm’s members (Abdul-Aziz, et al., 2015).

1.7.10 Staff Performance

Staff performance is also referred to as employee performance and is the measure of the extent to which an employee executes their duties and responsibility according to expectations (PeopleStreme, 2013).

1.8 Chapter Summary

Chapter 1 of the study has highlighted the background of the study and stated the problem that has inspired the study. The chapter has further highlighted the general objective of the study and presented the objectives that the study intends to achieve. Chapter I has also explained the significance of the study, identifying groups that stand to benefit from the study and how. The chapter has also provided the boundaries of the study under the scope of the study and defined some of the key terms and concepts that will be used in the study. In all, Chapter I has provided the blueprint of the study, and has underscored what the study intends to achieve.

Chapter Two of the study provides the literature review, and examines what existing literature says about; the effect of QM on staff performance, the influence of QM on customer satisfaction, and the effect of QM on organizational processes. It examines academic sources of literature that have been produced in the last 10 years on the topic of interest with the aim of assessing previous finding of previous empirical studies and to assess scholars’ perception of the relationship between Quality Management Implementation and Organizational Productivity

Chapter 3 of the study provides the research methodology to be used in the study. It highlights the research design that was used in the study, identifies and describes the population of the study. The chapter also defines and explains the sampling design that the
researcher used in the study and the sample size of the study. It then explains the data
collection instrument for the study, research procedures and the data analysis methods used.
Chapter Four presents the study results and findings concerning the respondents’
biographical data and three research questions that the study had sought to answer. The
results concern the following: the effect of QM on organizational processes, the influence
of QM on customer satisfaction and the effect of QM on staff performance. The chapter
also presents the result of inferential statics conducted in the data, specifically the results
of the cross tabulation and correlation analyses.

Chapter Five as the final chapter of the study provides the summary of the study, summatin
the purpose and the research questions of the study as well as the study key findings. The
Chapter then provides the discussion of the study’s key findings, the conclusion and
suggests some recommendations for progress and for further research.
CHAPTER TWO

2.0 LITERATURE REVIEW

2.1 Introduction
This chapter reviews existing literature concerning the effect of QM on organizational productivity. It examines literature on; the effect of QM on staff performance, the influence of QM on customer satisfaction, and the effect of QM on organizational processes. It seeks to unearth whether there is consistency in existing literature on the nature of relationship between QM and these three aspects of organizational productivity.

2.2 Effect of QM on Organizational Processes

2.2.1 Quality Management
Simply defined, quality management (QM) refers to the process of creating and maintaining a systems quality. Sterns, et al., (2011) observe that there is no standard definition of quality, there is also no standard definition of QM. However, some have defined the concept of QA as activities that comprise of a planned scheme of review process that is carried out by firm’s personnel who are directly involved in the inventory. A clearer definition is provided by Codex (cited in Sterns, et al., 2011) as the planned and systematic activities, which are deemed necessary to provide enough confidence that a service or a product will satisfy with respect to quality requirements. As such, QM implies the efficient and effective management, evaluation, monitoring and reviews of the businessinputs and transformational processes to generate a quality output (services and products) that meet predetermined standards and precipitate customer satisfaction (Ugwoke, Ofoegbu & Ugwanyi, 2012).

The practice of QM has evolved over the years commencing with the inspection and detection of defective products at the end of production lines (Oakland & Aldridge, 1995). Historically, the quality movement in its oldest form dates back to the 13th century when European craftsmen organized themselves into guilds which membership ensured the output from a craftsman complied strictly with the generally agreed to standards within the guild. The movement continued getting attention during the industrial revolution, during which time emphasis was on inspection of goods made at factories for quality. Thus, in its earlier years the focus of QM was on prevention as opposed to detection of defects hence
it centered on the front end of the process whereby process inputs and changes were instituted to meet process requirements for quality outcome. In fact, quality was achieved through QC and this is why QM was understood in the context of QC.

Currently, there are four critical elements, aspects or dimensions of QM, these include; quality control (QC), quality improvement (QI), and quality planning (QP) and quality assurance (QA) (Davood, et al., 2013; Jaafreh & Al-Abedallat, 2013). QC is a spectrum of routine or mundane technical functions aimed at measuring and ordering the quality of the firm’s inventory under development (Sterns, et al., 2011). It is designed to perform achieve three objectives, namely; to provide consistent and mundane checks to ensure data accuracy, completeness and integrity; to identify and address omission and errors in data and to document, record and archive inventory activities (Sterns, et al., 2011). Thus, by its extent and implications for organizational process, staff productivity and customer satisfaction, QM is considered crucial in facilitating the overall performance of the firm.

2.2.2 Organizational Processes

Simply defined, Processes of an Organization or organizational process or internal process refers to the entirety of procedure and activities that take place within the firm including, management, communication, decision making, strategic planning, sales, marketing among others (Sterns, et al., 2011). Organizational processes are a combination of multiple activities and procedures that are necessary for the firm to keep running and to excel in the realization of strategic goals (Bosilj-Vuksic & Spremic, 2004).

The organizational processes according to Botta-Genoulaz and Millet (2006) are determiners of the realized financial outcome and customer satisfaction level. There are affected by among others the activities of human individuals within the firm (workforce), the use of technology within the firm as well as other firm resources (Berner, 2009). Other factors that directly affect organizational process include the management especially HRM and QM practices. With respect to QM, organizational process are monitored to guarantee their efficient functioning, which in turn contribute to their smooth running and to organizational productivity and performance (Guney, et al., 2012).

Generally, organizational processes can be grouped into three broad categories, namely; management and operations and customer-associated processes (Bosilj-Vuksic & Spremic,
Operations refer to the business activities, which aim at the realization of high efficiency levels within the firm and are concerned with the transformation of labor and materials into services and products with efficiency. Additionally, these activities include, organizing the acquisition and delivery of products and services, and the implementation of such things as information and communication systems within the firm, quality control, maintenance policies and management of inventory levels (Shuhaimi, et al., 2016).

Customer associated process include all those activities that concern themselves with firm-customer relations. This are strategies, practices, and know-hows that firms use to analyze, manipulate and manage customer relations throughout the customer lifecycle, include the company's telephone, website, direct mail live chat, social media and marketing materials (Mwirigi, 2014; Botta-Genoulaz & Millet 2006). CRM systems can also give customer-facing staff detailed information on customers' personal information, purchase history, buying preferences and concerns.

2.2.3 How QM Impacts Organizational Processes

2.2.3.1 Organizational Communication

Communication is a vital and integral factor in business’s productivity and overall success. Empirical studies have established that internal organizational communication is important in facilitating employee attitude towards work, employee attitude towards change, employees work commitment and performance (Hussein, 2013; Guney, et al., 2012). Organizational communication is conceptualized as the exchange process whereby member of the firm to gather and share information about the organization and the process as well as changes that transpire within the firm (Guney, et al., 2012). Organizational communication is two-dimensional in terms of its objective. In the first instance, it is aimed at informing the organizational workforce or employees of the organizational policies and their individual or group tasks. In the second, instance, organizational communication is aimed at constructing a community within the firm (Ogbari & Taiye, 2015; Guney, et al., 2012).

Owing to the fact that communication influences employee work performance, job satisfaction and commitment to the firm, communication is an indispensable factor in organizational productivity (Hussein, 2013; Ogbari & Taiye, 2015; Guney, et al., 2012).
Research conducted by Hussein (2013) to determine the impact of organizational communication on the organizational productivity, found that firms that have defective internal communication mechanisms registered poor performance as compared to those firms that had a more efficient organizational communication systems. These findings are in line with findings made by Fransis (2014) that found a direct positive correlation between effective organizational communication and organizational productivity.

Empirical evidence also exists linking QM to effective organizational communication (Bahri, et al., 2012). Reynolds (2013) considers QM through the Enterprise Resource Planning (ERP) systems and argues that QM practices implemented through the ERP systems improve communication strategies. Indeed, this can be perceived to be true considering that employees can are able to receive communication in real time and record previous communications. Guney, et al., (2012), Ogbari and Taiye (2015) argue that the effectiveness or success of QM is contingent on internal stakeholders’ communication, that is, employees’ communication skills. Invariably, firms implementing QM must train their employees on effective communication skills. Naturally, such training is important in helping the firm achieve efficiency in the communication process, a crucial factor for general productivity (George, et al., 2013).

2.2.3.2 Decision-Making Process

Decision-making (DM) can be conceptualized as the process or the activity of identifying and choosing a course of action to address a particular problem (Abdulai & Shaflwu, 2014). It can also be conceived as the logical process of selecting the best alternative from a multiplicity of options in the process of decision-making in a firm (Al-Shra’ah, 2015). Organizational decision-Making has an integral function in corporate management and reflects the company’s success and failures since the organization hinges on the quality of its own decision (Jha 2012; Abdulai & Shaflwu, 2014).

QM has a positive direct impact on decision-making practices within the firm. According to Jha (2012), participative management and the teamwork, approaches that are implemented under QM systems allow the realization of broader perspectives from employees, which facilitate decision-making. Indeed, previous studies including Ogbari & Taiye (2015), Sheikholeslam and Emamian (2016) and Dalota, 2013) have suggested a positive relationship between QM and effective organizational decision-making. Joiner
(2017) contends that effective QM is one that allows the firm’s top management and leadership to obtain a multiplicity of view and perspectives from the employees and other external stakeholders though an effective communication system.

Through QM, organizations train their employees in a professional manner, encouraging them to make important and strategic decisions concerning the attainment of high standards and quality (Reynolds, 2013). While this is central to the attainment of QM objectives, its implications for organizational efficiency in terms of task completion and relevance to productivity are apparent. Training of employees in decision-making under the QM implementation is not only crucial to productivity at employee level but is also quite important at the organizational level especially with respect to employee participation in the decision-making process, participatory decision-making (Al-Shra’ah, 2015; Abdulai & Shafiu, 2014).

The concept of participatory decision-making (PDM) within QM system implies the degree to which employees are encouraged to participate and share in the general decision-making process (Abdulai & Shafiu, 2014). PDM facilitates productivity by not only enhancing the quality of organizational decision, but also facilitating staff motivation, commitment and performance that are essential to productivity of the organization (Ejimabo, 2015). However, Abdulai and Shafiu (2014) that despite its potential positive impact on organizational productivity and efficiency, just a limited number of firms have established PDM.

2.2.3.3 Organizational Learning

According to Aminbeidokhti, Jamshidi and Hoseini (2016) were first conceived by March and Sierit in 1963 and are among the most effective theories in leadership. They explain that organizational learning can be construed as confirmative process that accentuates standard practical techniques for achieving organizational objectives. According to Yusr, Mokhtar and Othman (2013) it is a set of corporate actions including knowledge acquisition, information distribution and interpretation, which affects productivity both unconsciously and consciously. Others including Aghahosseini (2013, Cited in Yusr, et al., 2015) contend that organizational learning is a form of error identification and amendment that occurs on a daily basis within the firm.
Chen-Ying and Hsu-Hua (2015) contend that QM and organizational learning are intricately linked due to the fact that the latter is and intended effect of the former. They contend further that organizational learning and process improvement operate in a concurrent integrated manner. Yusr, et al., (2013) further postulates that organizational learning is intractably connected to management through teamwork, customer focus, continuous improvement and adjustment to the turbulent business milieu. (Aminbeidokhti, et al., 2016) contend that several empirical studies have demonstrated that QM is a powerful instrument for improving corporate learning and increase the firm’s competitive advantage.

Moreno, et al., (2009, cited in Chen-Ying & Hsu-Hua, 2015) used an empirical data collected from some 202 managers of quality and found that there exists a strong link between QM and organizational learning. The value of organizational learning to customers is also apparent as it focuses on the understanding of customers’ needs and expectations. This precipitates the drive to satisfying those needs through product and service improvement, new products or services and novel ways of running the firm, all of which enhance productivity in as much as they lead to customer satisfaction (Aminbeidokhti, et al., 2016).

Aminbeidokhti, et al., (2016) found that QM practices such as teamwork, leadership and communication have a direct impact on organizational learning. Chen-Ying and Hsu-Hua (2015) postulate that firms having implemented QM can realize the internal benefits such as productivity enhancement and improved quality as QM facilitates organizational learning. QM therefore facilitates organizational productivity by enhancing organizational learning (Yusr, et al., 2013).

According to Chen-Ying and Hsu-Hua (2015), QM allows the firms to develop the knowledge and intelligence, and transfer it towards the promotion of a culture of information and knowledge sharing across functional teams that further lead to organizational learning. As such, organizational learning must be conceived as a key attribute of organizational productivity that is greatly affected by QM. Aminbeidokhti, et al., (2016) found that organizational learning has an effect on organizational innovations, which can also be conceived as an indicator or organizational productivity and efficiency.
2.2.3.4 Strategic Planning

According to Choti and Datche (2016), strategic planning has been used in the general business community since the mid-twentieth century. Planning, programming, and budgeting systems were introduced in the late 1940s and early 1950s but used only sparingly by business and government at that time. According to Ibrahim (2015), a strategic plan can be considered as a conglomeration of process and activities undertaken by a firm with the aim of developing a range or strategies that contribute to its realization of predetermined objectives. Therefore, this clearly indicates that companies have to arise to the occasion that they have to develop strategies that will drive the organization in achieving the set goals and objectives as per the vision and mission of the organization (Yusr, et al., 2013). The strategic planning process involves, at least five phases. Ibrahim (2015) explains that in the first instance, the organization identifies and classifies its resources, and conducts a SWOT analysis, in which it appraises it weaknesses and strengths relative to competitors (Davood, et al., 2013; Jaafreh & Al-Abedallat, 2013).

The firms also identify the threats and opportunities in its business environment and seek better ways of utilizing its scarce resources. In the second, phase the organization singles out its competencies and their corresponding resources (Khan, 2013; Abdul-Aziz, Al-Qahtani & Alsheri, 2015). Thirdly, the firm appraises rent generating or return on investment potential of its resources and competencies. In the fourth phase, the organization selects what it considers as the best strategy for exploiting its resources and competencies. Lastly, the firm management has to identify the resource gaps that need feeling (Manjunath & Kumar, 2013).

By doing so then the organization will have to formulate strategies that will guide to the direction and the future of where they want to be as an organization. Several previous empirical studies have suggested the value of QM for strategic planning and vice versa (Hussein, 2013; Ogbari & Taiye, 2015; Guney, et al., 2012). QM is intricately connected to strategic decisions and strategic planning. According to Kantardjieva (2015) contends that strategic planning and QM must be synchronized or integrated to harness their benefits for productivity.
2.3 The Influence of QM on Customer Satisfaction

2.3.1 Customer Satisfaction

The success of any business establishment highly depends on the organization’s ability to realize customer satisfaction. Customer satisfaction according to Irfan, Shamsudim and Hadi (2016) is the psychological state that a user or a consumer of a good or a service feels when there is constancy between expectations and emerging emotions. When such a constancy between what as expected and what is obtained exists, then the customer is likely to retain his or her purchase pattern for the good or service in question. In other words, it is said that satisfied customers are also very loyal customers (Grönholdt, Martensen & Kristensen, 2000). In fact, Suchanek, Ritcher and Kralova (2014) contend that while customer satisfaction can be defined like Irfan, et al., (2016) have done, it can also be considered as customers’ rating of the firm’s specific attributes including quality. As such, Suchanek, et al., (2014) understand customer satisfaction to be a reflection of quality.

Loyal customers positively affect the performance of the firm in both financial and non-financial terms (Irfan, et al., 2016). Therefore, anything that affects customer satisfaction has a direct impact on customer loyalty, the market share an organization controls and organizational overall productivity. Lee and Ritzman (2005) contend that from the operations management perspective, customers perform a critical role in the processes of the firm and are primary motivators of productivity. In this sense, it can be argued that any factor, which affects customer satisfaction, also affects organizational productivity.

Customer satisfaction is important because it provides marketers and business owners with a metric that they can use to manage and improve their businesses (Boon, et al., 2016; Cooper & Makanishi, 2011). In a survey of nearly 200 senior marketing managers, 71 percent responded that they found a customer satisfaction metric very useful in managing and monitoring their businesses (Masood, et al., 2016). In most of the literature, customer satisfaction is conceptualized as the ability or capacity of a company’s products and service to meet or surpass the expectations customers have about a product or a service or the company brand (Ogbari & Taiye, 2015; Sheikholeslam & Emamian, 2016; Dalota, 2013). Conceived this way, customer satisfaction is a vital indicator of organization’s productivity and efficiency. Several empirical studies have argued for the link between QM practices

2.3.2 How QM Impacts Customer Satisfaction

2.3.2.1 Market Share

The market implies the conglomeration of current and potential consumers of a firm’s products or services. Market share can be conceptualized as that proportion of the customer base commanded by a company’s products or services (or brand) (Cooper & Makanishi, 2011). Dalota (2013) argues that through QM, firms cannot only realize greater productivity but can achieve greater market share and productivity as well. Chong and Rundus (2014) contend that increased competition in the contemporary business milieu has compelled firms especially those in the non-manufacturing industry to search for ways of realizing a competitive edge.

Aktar, Zameer and Saeed (2014) contend that when firms experience market competition, they are compelled to produce high quality products or services to meet competitive quality standards as well as customer needs. In this way productivity increases in both quality and quantity. They observe further that quality-related investments such as QM practices based on product design and customer focus results in improved productivity in product and services’ quality and quantity. According to the contingency theory, firms must align with their environment in order to realize optimal performance (Chong & Rundus, 2014).

Market competition is an integral part of the business environment that influences organizational performance and productivity in general (Dalota, 2013). Market competition for the purposes of the current study can be conceptualized as a comprising of product distribution, price and product or service differentiation among other such factors. Empirical studies have revealed that QM is significant in facilitating organizational improvement in terms of market share in a competitive business environment (Chong & Rundus, 2014; Jha, 2012).

QM facilitates the organizations capacity to align its products and services in line with the market demands as suggested by the Contingency theory. Accordingly, some studies have found that firms that have established a product design and customer focus approaches have
fared well in terms of market share and customer attraction as compared to those that have not (Boon, et al., 2016; Masood, et al., 2016). These findings are also in line with the findings made by Aktar, et al., (2014) when they found that QM was beneficial to the firms in terms of improved quality, teamwork, working relationships, customer satisfaction and market share.

2.3.2.2 Customer Loyalty and Satisfaction

According to Ogbari and Taiye (2015), QM results in improved customer satisfaction across cultural settings and diverse industries. Chiguvi (2015) found that for most firms, one of the key goals of implementing a QMS is to enhance customer satisfaction. Chong and Rundus (2014) have contended that QM practices, including customer focus and product design are essential and undeniable as far as their contribution towards the realization of customer satisfaction is concerned. Manani, et al., (2016) contend that customer focus of the QM is emerging as a vital means of maintaining a competitive edge across industries, both service and production industries.

However, some studies have suggested that customer satisfaction is actually an outcome of QM (Sheikholeslam & Emamian, 2016). Sheikhholeslam and Emamian (2016) conducted a study on the nature of the relationship between QM and customer satisfaction and determined that the two were positively correlated. They further determined that business units that had adopted QM practices had more customers than those that had not. In yet another study conducted by Ugboro and Obeng (2000) (Cited in Sheikholeslam & Emamian, 2016), it was found that QM had a positive impact on customer satisfaction levels.

A common feature of customers is their propensity to walk away or to cancel their loyalty to the company once they feel dissatisfied with the company’s product and services or even the brand. Manani, et al., (2016) and Chiguvi (2016) observe that due to the competitive nature of the contemporary business environment across the service and product industries, consumers are becoming very conscious and highly critical of the quality of products and services they get for their money. Hence, achieving and sustaining customer satisfaction and loyalty is a critical indicator of organizational productivity in such a competitive business milieu.
2.3.2.3 Customer Expectation Realization

Customer expectations set the bar for customer satisfaction, which also affects repurchase decisions and customer loyalty. Firms’ performance and productivity is associated with the degree to which the firm is capable of meeting customers’ expectation in terms of services and products that the company produces (Khan, 2013). Customer focus is one of the key dimensions of QM, which is critical in facilitating productivity by precipitating the realization of customer expectations (Majunath & Kumar, 2013). It implies that for a company to completely meet the needs of customers, it has to be able to focus on its customers and understand those needs. As such, the productivity value of customer focus approach to realizing customer needs is apparent.

Osabiya (2015), Ngambi and Nkemfikiafu (2015) contend that customer focus has a productivity value as far as establishing supplier partnership, creating service relationship with firm’s internal customers and achieving standards is concerned. Chiguvi (2016) argues that the primary overriding attribute of QM is the firm’s focus on its customers, in which quality is assumed to be meeting or exceeding expectations of customers regarding product or services actual performance. In this sense, QM facilitates firm’s productivity in terms of identifying and meeting the needs and desires of its customers (Sheikholeslam & Emamian, 2016).

As such, quality is considered as customer driven and a product and service, which fails to conform to the needs of the customer, is considered a failure (Abdul-Aziz, et al., 2015). Manani, et al., (2016) contends that QM exists to facilitate company’s ability to achieve and exceed customer expectation and that dissatisfied customers often tend to discontinue conducting business with the organization. In fact, as Boon, et al., (2016), Chong and Rundus (2014) customer focus, QA and QI are all aimed at attaining customer expectations. Therefore, customer focus has a productivity value for the firm in that it drives the firm to realize its quality goal to the customers. Dalota (2013) and Davood, et al., (2013) postulate that the ultimate result of the customer satisfaction and customer focus is to achieve profit and market share for corporations and businesses.

Bahri, et al., (2012) found that a customer focus approach in QM allow the firm to concentrate on improving process and implementing policies that aim at achieving customer satisfaction. By extension and in fact as Sheikholeslam and Emamian (2016)
argued, this approach is not only important for its value to achieving customer loyalty but is also quite imperative as far as realizing organizational productivity and efficiency in customer-oriented services is concerned.

2.4 Effect of QM on Staff Performance

2.4.1 Staff Performance

Staff performance is also referred to as employee performance and is the measure of the extent to which an employee executes their duties and responsibility according to expectations (PeopleStreme, 2013). Organizational or firm performance implies the ability of the firm to achieve its strategic goals independently and the capacity of the staff members or organization’s employee to perform their tasks well (Muda, Rafiki & Harahap, 2014). The performance represents one of the most important aspects that must be taken into account when talking about the internal marketing of a company, but not only. Reaching performance to the highest level becomes more and more a challenge, given the continuous development of the companies and the continuous increase of the market standards (PeopleStreme, 2013).

This assumes not only providing quality of the service and products, but also having a performing workforce. The management of performance is a crucial element of organizational efficiency and productivity. This means that the greater the ambiguity in the management-general staff exchange the higher the inefficiency (Muda, et al., 2014). QM in the management process can facilitate the quality and efficiency of both horizontal and vertical communication within the firm and eliminate challenge or task ambiguity and duplicity and this has a direct positive result for employee performance.

Therefore, the impact of QM on staff performance seems to be direct and positive. At the same time, quality management can assist in the identification and elimination of employees that are free-riding and not performing their tasks as required and again facilitate the elimination of redundancy in the organizational processes, facilitate staff motivation, empowerment and increase their participation in the firm (Osabiya, 2015; Chang, et al., 2013; Jha (2012).
2.4.2 How QM Impacts Staff Performance

2.4.2.1 Employee Motivation

Motivation can be conceived as the underpinning drive within individuals that makes them want to achieve specific predetermined objectives and to fulfill a certain need or expectation (Osabiya, 2015). Conceptually, organizational productivity and success is contingent on member’s motivation to employ their abilities and full potential well. According to a recent study by Proud Foot Consulting (Cited in Osabiya, 2015); poor working motivation was found to be the underpinning for productivity loss.

Employees are considered the most valuable of the firm’s resources indispensable in achieving and sustaining organizational productivity (Ngambi & Nkeniafu, 2015). Several empirical studies have suggested a positive impact of QM on employee motivation and task performance (Joiner, 2017; Bahri, Hamza & Yusuf, 2012). These studies contend that QM implementation within an organizational environment, which is supportive, has the capacity to inspire and employees to work smarter and harder towards the realization of organizational production and quality objectives (Jaafreh & Al-Abedallat, 2013).

In support of the QM value for employee motivation, Joiner (2017) contends that continuous improvement under the ambit of QM facilitates employee motivation as it inspires them to achieve quality outputs as well as focus on the realization of customer satisfaction. Ngambi and Nkeniafu (2015) contend that low or poor motivation is directly associated with high levels of employee absenteeism, lack of positive team spirit, poor sense of belonging or failure to self-identify with the firm, and sentiments among employees of being poorly rewarded and undervalued for their tasks. Within the QM and as conceived by Cartwright (1999) (Cited in Osabiya, 2015), there are nine key attributes to motivation that have a direct impact on employee motivation and by extension performance and productivity. These dimensions include; identification, equity, equality, consensus, instrumentality, rationality, development, group dynamics and internalization.

2.4.2.2 Employee Empowerment

The capacity to attract, retain and develop a workforce that is talented is a fundamental feature of contemporary firms and one, which is also a key indicator of the firm’s capacity to empower the employees it attracts (Osabiya, 2015). Khan (2013) and Chang, et al.,
(2013) conceptualize employee empowerment as a process of improving feelings or sentiments of self-efficacy among a firm’s employees through the identification and removal or limiting of conditions, which generate powerlessness. According to Masood, et al., (2016), the argument underlying employee empowerment as applied within the concept of QM is that positive transformations in the character and skill’s set of individual is improved their corollary improvement in the quality of goods and product will invariably follow.

Employee empowerment is therefore an underpinning tenet of QM. Joiner (2017) argues that the basic elements of QM comprise of inter-personal exchanges such as effective communication, teamwork, creativity, participative management, employee involvement or participation, which are critical aspects of employee empowerment. Ngambi and Nkeniafu (2015) found that QM practices demand a continuous training of employees to enable them to perform their tasks more efficiently. They not further in so doing QM practices contributes both directly and indirectly to organizational productivity through employee empowerment. Studies have found that QM precipitate employee training and job learning, which increases the skills levels of employees making them more effective and efficient in performing work-related tasks (Boon, et al., 2016).

Empirical evidence exists suggesting further that empowerment practices including employee training enhance the firm-stakeholder relationship precipitating a synergy within the whole firm as well as in the entire supply chain (Osabiya, 2015). According to a study cited by Masood, et al., (2016) a research conducted in a firm that already used QM practices, particularly concerning workforce empowerment, it was found that it had positive impacts with respect to employees’ commitment, task or job completion as well job satisfaction.

2.4.2.3 Participative Management

According to Jha (2012), participative management is the intimate and cherished involvement of all organizational members in the management of the firm. It is new aspect of management and one which owes its justifications to the QM concept and which entails achieving staff motivation and empowerment through their inclusion in business decision-making processes (Ogbari & Taiye, 2015; Sheikholeslam & Emamian, 2016; Dalota, 2013). In this form of management, the top organizational leaders and managers as well as team
leaders only set firm or team policies and make associated decisions only after consulting
with the rest of the workforce or team members (Joiner, 2017). It has been demonstrated
that previous studies have found employee empowerment to be an integral part of the QM
process.

Employee participation can be construed as an active way of empowering staff members
within an organization (Boon, Safu & Arumugan, 2016). By allowing employee
involvement in the organizational management process, organizational managers and top
leadership acquire a broader perspective on issue of interest and obtain the relevant
information that add to manager’s intelligence of operations. In this manner, QM proves
productivity in two ways; it directly enhances the effectiveness of managerial decision-
making and also facilitates employee job motivation and loyalty to the firm (Omware, et
al., 2014).

In a study conducted by Ngambi and Nkeniafu (2015), staff participation was found to be
positively related to employee productivity and motivation. Employee participation in
teams or task groups has also been found to be important in helping employees share job-
related knowledge sharing, problem identification and problem solving, and allow
employees to derive a comprehensive conceptualization and appreciation of their roles in
the overall process. It is therefore, apparent how QM facilitates productivity both at
employee level and at organizational level by encouraging employees’ active participation
in the firm.

2.4.2.4 Employee Satisfaction

Jha (2012) charges that employee satisfaction is one of the primary indicators of
organizational productivity and performance. Osabiya (2015) posits that unsatisfied
employees are not productive, do not produce quality goods and services and as such
generate unsatisfactory outcome. Therefore, the QM function in facilitating employee
satisfaction is aimed to increasing employees’ ability and commitment to generating
satisfactory outcome in terms of quality of goods and services in a way that ensures
organizations overall productivity (Boon, et al., 2016). According to the Equity Theory
(ET), employees have to feel that their treatment by the firms is failure. As such, the ET is
a key consideration in the debates and analysis of employee motivation and morale.
Ngambi and Nkeniafu (2015) observe that QM facilitates the realization of better treatment of the employees by the firm’s management as they realize that employees are key to effective implementation of all elements of QM. As such, they not further that treating employees as indispensable and vital resources of the firm, facilitate employee loyalty and greater motivation to do the work and accomplish assigned tasks. Certainly, increased motivation leads to increased effort and sacrifice by employees in performing tasks, which invariably lead to greater productivity (Bahri, et al., 2012).

Increased job satisfaction, increased motivation for work results in reduced absenteeism, job turnover and related costs. In a study conducted by Chan, et al., (2015), it was found that employees who had been empowered as per the QM implementation did not only record higher job satisfaction but were also highly performing contributing their organization (Osabiya, 2015). According to Ngambi and Nkeniafu (2015), several other factors including employee-management relationship, employee empowerment and motivation as well remuneration as also vital determinant of employee job satisfaction perceptions and level.

According to Chan, et al., (2015) teamwork is one of the basic tenets of organizational QM. Teamwork implies employees working together as a team, sharing and performing tasks aimed at realizing a common team or organizational objective. Teamwork is therefore not only a vital aspect of employee participation but can be perceived as critical with respect to employee empowerment and motivation. Davood, et al., (2013) has argued that a teamwork doe not only improve individual team member’s motivational properties towards task performance and completion but can as well increase their job satisfaction levels.

2.5 Chapter Summary

This chapter, Chapter Two has provided a review of literature on the subject. The review focused on literature relating to the three objectives that the study sought to achieve, that its, the review focused on; the effect of QM on staff performance, the influence of QM on customer satisfaction, and the effect of QM on organizational processes. The review has revealed that while several studies have attempted to examine the effect of QM and QMS on organizational productivity, there is lack of consistency on previous study findings on the nature of the relationship.
While some studies have determined a linear positive association, others have found no association while others have found a negative consequence of QM on productivity. This inconsistency is further exacerbated by the fact that academics have ignored the analysis of the impact of QM on productivity of consult firms in the engineering sector in Kenya. Therefore, this study is justified by both the lack of consistency on the nature of nexus between QM and productivity as well as the literature gap concerning the nature of the relationship between the two variables in the Kenyan engineering sector.
CHAPTER THREE

3.0 RESEARCH METHODOLOGY

3.1 Introduction

This chapter discusses the research design that the research adopted throughout the study to realize study objectives. It also describes the population and sampling design, data collection methods, research procedures and data analysis methods that will be used in this study.

3.2 Research Design

The research design is the general strategy that the researcher uses to integrate diverse elements of the study in logical and coherent manner (Vogt, Gardner, Haefele, 2013). In so doing, the researcher ensures that the research problem will be addressed effectively. Therefore, a research design has also been conceived in research literature as representing the blueprint for data gathering, measurement and the scrutiny of the collected data. The research design chosen for a particular study is contingent on the research problem, which is to say that the research problem establishes the kind of research design that the researcher chooses (Hakim, 2013).

The researcher adopted an explanatory research design in the study. The adopted design allowed the researcher to examine how and why QMS affected organizational productivity. Creswell (2013) explicates that answering questions pertaining to how and why compels the researcher to develop and generate causal explanations. Vogt, et al., (2013) opine that causal explanation concern how and why incident $Y$ results from event or factor $X$ (that is, that $Y$ is caused by $X$). Moreover, the explanatory research design facilitates researchers attempt to answer questions about or concerning, Why and How regarding the research issue or problem. The explanatory research design allowed the researcher to acquire information and data concerning the effect of QMS on Staff performance, the effect of QMS on customer satisfaction as well as the effect of QMS on organizational processes. Therefore, the research design was considered quite suitable and highly appropriate for the study as it facilitated the acquisition of the necessary and relevant data on the research topic and the general objectives of the study.
3.3 Population and Sampling Design

3.3.1 Population

Population is the larger pool or the bigger group from which a sample is drawn and the study results are generalized (Creswell, 2013). A population has certain implicit features and holds information of particular interest to the researcher. As such, research validity is contingent on the extent to which the researcher ensures that the population is internally consistent, that is, the salient features which the research is interested in is well distributed among the individuals in the population. Furthermore, the extent to which the research findings resembles the population and is capable of being replicated through a similar study is indicative of the validity of the study ((Vogt, et al., 2013).

The population for the current study comprised of 60 engineering firms operating with Nairobi, Kenya. The consideration for this population was based on the assumption that these firms have and are integrating QMS in their operations besides being well regulated and established by the relevant statutory bodies, such as the Engineers Registration Board of Kenya (ERB) and the Board of Registration of Architects and Quantity Surveyors (BORAQS) and are therefore easy to sample. According to the list of firms obtained from the ERB and BORAQS, there are 60 engineering firms located in Nairobi, Kenya.

3.3.2 Sampling Design

To enable the selection of a preferred and relevant population sample of inclusion in the actual study, a significant proportion or fraction of the population is chosen. It is upon this selected group of individuals or events that the research collects the data. Infers and projects the findings of the study (Creswell, 2013). This implies that selecting an appropriate sample size increases not only the study’s validity but the extent to which the findings of the study can actually be generalized on the population from which the researcher collected the sample (Sreejesh,Mohapatra & Anusree, 2014). In other words, the sampling design increases the validity and accuracy of the study.

The researcher used a simple random sampling technique to collect data from the target population. The stratification of according to their various sub disciplines of engineering firms according to the Engineers Board of Kenya (EBK) is as indicated in Table 3.1.
Table 3.1: Sample Distribution

<table>
<thead>
<tr>
<th>Grouping of Engineers in Kenya</th>
<th>No. of Selected Firms</th>
<th>Sample Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Civil Engineers</td>
<td>19 (31.6%)</td>
<td>17 (31.6%)</td>
</tr>
<tr>
<td>2. Structural Engineers</td>
<td>23 (38.3%)</td>
<td>20 (38.3)</td>
</tr>
<tr>
<td>3. Surveyors</td>
<td>18 (30%)</td>
<td>16 (30%)</td>
</tr>
<tr>
<td>Total</td>
<td>60</td>
<td>53</td>
</tr>
</tbody>
</table>

Source; Author

3.3.2.1 Sampling Frame

Vogt, et al., (2013) have conceptualized the sampling frame as the register, a list or an array of subjects, people or events from which the researcher identifies every single potential respondent in a sample. Creswell (2013) goes further to provide that the sampling frame is the source or reservoir of all qualified or suitable population from which the survey sample is drawn. The sample frame for the study comprised of firms indicated on the list of registered engineering firms obtained from ERB which are statutory bodies solely mandated by law to regulate the profession of engineering in Kenya. Only relevant firms operating in Nairobi were included in the sample.

3.3.2.2 Sampling Technique

The methods used in deriving samples from a population are motivated by the goals of a particular investigative activity (Vogt, et al., 2013). The sampling process is guided by the parameters or scope of the research in the population, aligned with hypotheses that the study seeks to test. As aforementioned, since the two populations from BORAQS & ERB are stratified, the study made use of simple random sampling technique and the sample size was obtained by applying a statistical formula recommended by Mugenda and Mugenda (1999) discussed under sample size. The technique involved the use of random number tables available on statistics books. The reason for using this technique is because as Robson (2002) explains, it accords each person in the sampling frame and equal chance of
participation in the study, besides making all possible combinations of persons in the sample size equally possible.

3.3.2.3 Sample Size

The sample size refers to the proportion of individuals that are actually chosen to participate in the study (Creswell, 2013). They comprise of the people that bare close characteristics with the population but which the researcher can access within the time and resource constraints. The sample size for the study as already indicated under sampling design will comprise of 86 respondents.

Hence, to obtain the sample size the study adopted a stratified random sampling technique to determine the sample size. It used the following formula proposed by Mugenda and Mugenda (1999) for calculating a suitable sample size for a population not exceeding 10,000

\[
n = \frac{z^2 \ p \ q \ N}{e^2 (N - 1) + z^2 \ p \ q}
\]

Where:

n = Size of sample

N = Size of population.

p = Sample proportion estimated to have characteristics being measured. Assume a 95% Confidence level of target population

q = 1 - p

e = Tolerable error level (assume 0.05 since the estimate should be within 5% of the true Curve)

z = the standard normal deviate at the required confidence level i.e. 1.96.

The researcher assumed a 95% confidence level of the target population and that the response achieved would be within ±5% of the true state of the population targeted.
Through this technique, the number of individuals to be chosen to participate in the study will be 60 comprising of civil engineers, structural engineers, electrical engineers and surveyors.

3.4 Data Collection Methods

Data collection method implies the technique that the researcher uses to obtain the information or data from the respondents (Sreejesh, et al., 2014). In this study, structured questionnaires were used to obtain the relevant information from the research participants. The questionnaire comprised of 38 questions, which the participant is capable of answering within 20 minutes. Thirty-Eight questions were considered enough to allow the researcher ask all questions regarding the three specific objectives, namely the effect of QMS on staff performance, customer satisfaction and organizational processes.

Two reasons can be provided in explanation for the preference of the use of questionnaires instead of other data collection methods. First, as Robson (2002) has pointed out, self-completion questionnaires make it feasible to conduct a study among subjects when face-to-face interviews are not possible. The potential respondents of the study are individual who run tight schedules and work between the office and the cites hence an interview would be an inconvenient method of collecting data from the respondents. Secondly, the self-completion questionnaires are preferred as it permitted respondents time to deliberate on and consult colleagues about the questions asked and permit them to give more relevant and appropriate responses.

3.5 Research Procedures

The research procedure refers to the processes or stages that the researcher actually follows during the survey (Sreejesh, et al., 2014). For this study, the researcher went through several stages to obtain the data as follows. The researcher requested letter of introduction (or a cover letter) from the research office. The letter indicated who he was, the purpose for the research he was undertaking and a request for assistance by relevant offices or authorities in the selected firms. After obtaining stamped letter of introduction, the researcher printed the data collection instrument (the structured questionnaires) and proceeded to the selected firms.
After obtaining the permission to conduct the study, the researcher then issued the potential respondent with the structured questionnaires to fill in their responses to various questions therein. The respondents were left with the questionnaires to fill in at their time of convenience for the researcher to collect them at an agreed date. This was especially done with the respondents who were running tight schedules and could not spare time to fill the questionnaires at the time of the researchers' visit. For those who had time, the researcher gave them a maximum of 20 minutes to respond to the various questions and then collected them once the respondents were done. After the data collection was completed, the researcher prepared the questionnaires for analysis.

3.6 Data Analysis Methods

This study used quantitative method of data analysis. To ensure easy analysis, the questionnaires coded responses to facilitate easy entry into the SPSS data analysis tool. The quantitative data analysis method used comprises descriptive data analysis techniques, which used frequency tables, pie chart and bar graphs to summarize and present the study results. The application of the various types of descriptive data analysis was aimed at facilitating visual appeal for the would-be reader of the report and for presenting the raw data in a manner that could provide faster understanding of study’s findings. Further associations between the variables were conducted by the use of Statistical Package for Social Sciences (SPSS) program, through which Correlations, ANOVA and regression were conducted among relevant variables to permit further interpretation of the data.

3.7 Chapter Summary

Chapter Three has outlined the methodology for the study. The chapter has identified and described the research design for the study as explanatory research design. It has noted that this design facilitated the realization of the three research objectives. The chapter has also defined the population for the study and identified the sampling design as well as the sample size used in the study; the sampling design preferred and used, the data collection technique, the research procedure and the method for data analysis. It has identified. The next chapter presents the results of the study. Chapter Four employs the use of statistical and inferential statistics to present the results of the study.
CHAPTER FOUR

4.0 RESULTS AND FINDINGS

4.1 Introduction

This chapter details study results and findings. It employed both descriptive and inferential data analysis methods to present the results. The descriptive methods used involved frequency tables, pie charts and barographs. The inferential methods used include correlation of dependent and independent variables, regression analysis and ANOVA. The response rate for the study was 79.2% (42 fully filled questionnaires were obtained out of the 53 that had been issued out.

4.2 Background Information

The researcher asked the respondents some background information regarding the respondents and the firm. This part provides the results obtained.

4.2.1 Consultancy Area of the Firm

Table 4.1 shows the study findings when respondents were asked to indicate the area of consultancy of their firm. As shown, 21 firms (50%) were involved in “Civil Engineering”, 4 (9.5%) “Structural Engineering”, 1 (2.4%) “Electrical Engineering”, 6 (14.3%) “Mechanical Engineering” while 10 firms (23.8%) were involved in “Survey and Mapping”.

<table>
<thead>
<tr>
<th>Consultancy Area of the Firm</th>
<th>Frequency (n)</th>
<th>Percent (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Civil Engineering</td>
<td>21</td>
<td>50</td>
</tr>
<tr>
<td>Structural Engineering</td>
<td>4</td>
<td>9.5</td>
</tr>
<tr>
<td>Electrical Engineering</td>
<td>1</td>
<td>2.4</td>
</tr>
<tr>
<td>Mechanical Engineering</td>
<td>6</td>
<td>14.3</td>
</tr>
<tr>
<td>Survey and Mapping</td>
<td>10</td>
<td>23.8</td>
</tr>
<tr>
<td>Total</td>
<td>42</td>
<td>100</td>
</tr>
</tbody>
</table>
4.2.2 Age of the Firm/Years of Operation

Figure 4.1 shows the results when the respondents were asked how long their firms had been in operation. Two firms (5%) had been in operation between 1 and 5 years and 40 (95%) had been in operation for “over 20 Years”.

![Figure 4.1: Age of the Firm/Years of Operation](image)

4.2.3 Whether Firm Uses Quality Management (QM)

Figure 4.2, is indicative of study results when respondents were asked whether their respective firms used Quality Management (QM). As shown, 40 respondents (95%) said “Yes” and 2 (5%) indicated they were "Not sure”.

![Figure 4.2: Whether Firm Uses Quality Management (QM)](image)
4.2.4 Operational Area Where QM is Utilized

The researcher asked the respondents to indicate the operational areas where their firms used QM. As shown in Table 4.2, 10 respondents (23.8%) indicated it was used in “Design and Project Management”, 2 (4.8%) in “Human Resources”, while 30 (71.4%) indicated that it was used in “All” areas of operation including “Finance and Accounts”, “Design and Project Management” and “Human Resources”.

Table 4.2: Operational Area Where QM is Utilized

<table>
<thead>
<tr>
<th>Frequency (n)</th>
<th>Percent (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Design and Project Management</td>
<td>10</td>
</tr>
<tr>
<td>Human Resources</td>
<td>2</td>
</tr>
<tr>
<td>All</td>
<td>30</td>
</tr>
<tr>
<td>Total</td>
<td>42</td>
</tr>
</tbody>
</table>

4.2.5 Categorization of Respondents by Specialization

The respondents were asked to indicate their area of specialization, Figure 4.3, indicates the categorization of the respondents by area of specialization. As shown, 23 respondents (54.8%) were “Civil Engineers”, 4 (9.5%) “Structural Engineers”, 3 (7.1%) “Mechanical Engineers”, 4 (9.5%) “Mechanical Engineers”, 8 (19%) indicated they specialized in “Survey and Mapping”.

Figure 4.3: Categorization of Respondents by Specialization
4.2.6 Respondent’s Duration in the Firm

The respondents also indicated their years of work with their respective firms. As shown in Table 4.3, 18 respondents (42.9%) had worked with their respective firms for between 1 and 5 years, 16 (38.1%) between “5 – 10 years”, 3 (7.1%) between “15 – 20 years” and 5 (11.9%) had worked with their firm for “Over 20 years”.

Table 4.3: Respondent’s Duration in the Firm

<table>
<thead>
<tr>
<th>Frequency (n)</th>
<th>Percent (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 – 5 years</td>
<td>18</td>
</tr>
<tr>
<td>5 – 10 years</td>
<td>16</td>
</tr>
<tr>
<td>15 – 20 years</td>
<td>3</td>
</tr>
<tr>
<td>Over 20 years</td>
<td>5</td>
</tr>
<tr>
<td>Total</td>
<td>42</td>
</tr>
</tbody>
</table>

4.2.7 Categorization of Respondents by Years of Continuous Work Experience in Field

Figure 4.4 shows the grouping of respondents by years of continuous work experience in their respective fields. Ten respondents (23.8%) had a work experience or between “1 – 5 years”, another 10 (23.8%) between “5 – 10 Years”, 7 (16.7%) between “15 – 20 Years” and 15 (35.7%) “Over 20 Years”.

Figure 4.4: Respondents by Years of Continuous Work Experience in Field
4.2.8 Categorization of Respondents by Level of Education

Table 4.4 shows the grouping of respondents by level of educational attainment. Two respondents (4.8%) had “Diploma”, 1 (2.4%) had “Higher Diploma”, 29 (69%) had “Bachelors”, 4 (9.5%) had “Masters” and 6 (14.3%) had “PhD”.

Table 4.4: Categorization of Respondents by Level of Education

<table>
<thead>
<tr>
<th>Level of Education</th>
<th>Frequency (n)</th>
<th>Percent (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diploma</td>
<td>2</td>
<td>4.8</td>
</tr>
<tr>
<td>Higher Diploma</td>
<td>1</td>
<td>2.4</td>
</tr>
<tr>
<td>Bachelors</td>
<td>29</td>
<td>69</td>
</tr>
<tr>
<td>Masters</td>
<td>4</td>
<td>9.5</td>
</tr>
<tr>
<td>PhD</td>
<td>6</td>
<td>14.3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>42</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

4.3 Effect of QM on Staff Performance

The researcher asked the respondents questions regarding the effect of QM on staff performance. The following are the results that were obtained regarding each of the questions that were asked.

4.3.1 Most Important Aspect of Performance Affected QM

The respondents were asked to rank in order of importance areas of staff performance affected by QM with 1 being the least important and 5 being the most important. As shown in Figure 4.5, “Employee Motivation” was ranked as the most important with a percentage mean rating of 73.8%, followed by “Employee Participation in Management” with 71.4%. “Employee Empowerment” was ranked that with 66.7% and “Employee Satisfaction” was ranked the least important with a percentage mean rating of 59.5%. This implies that staff motivation is the most important aspect of staff performance that is affected by quality management practices.
Figure 4.5: Most Important Aspect of Performance Affected QM

4.3.2 QM on Employee Overall Participation in the Firm

The results are as shown in Table 4.5 were obtained when the researcher were asked what they perceived as the nature of the effect of QM on their overall participation in the firm. Thirteen (31%) were “Neutral”, 1 respondent (2.4%) thought it had a “Very Negative” effect, 16 (38.1%) “Positive” effect and 12 (28.6%) thought that it had a “Very Positive” effect.

Table 4.5: QM on Employee Overall Participation in the Firm

<table>
<thead>
<tr>
<th>Effect</th>
<th>Frequency (n)</th>
<th>Percent (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very Negative</td>
<td>1</td>
<td>2.4</td>
</tr>
<tr>
<td>Neutral</td>
<td>13</td>
<td>31</td>
</tr>
<tr>
<td>Positive</td>
<td>16</td>
<td>38.1</td>
</tr>
<tr>
<td>Very Positive</td>
<td>12</td>
<td>28.6</td>
</tr>
<tr>
<td>Total</td>
<td>42</td>
<td>100</td>
</tr>
</tbody>
</table>

4.3.3 QM on Employee Morale towards Task Performance

The respondents were asked their opinion on what they thought was the nature of the effect of QM on employee morale towards task performance. Six respondents (14.3%) thought the effect was “Very Positive”, 20 (47.6%) “Positive” and 1 (2.4%) thought it was “Very Negative” while the rest 15 (35%) were “Neutral”. The results are as shown in Figure 4.6.
Figure 4.6: QM on Employee Morale towards Task Performance

4.3.4 QM on Employee Participation in Management

Table 4.6 shows the results when respondents were asked to indicate the nature of the effect of QM on employee participation in management. One respondent (2.4%) thought QM had a “Very Negative” effect, 17 (40.5%) were “Neutral”, 16 (38.1) thought it was “Positive” and 8 (19%) thought the effect was “Very Positive”.

Table 4.6: QM on Employee Participation in Management

<table>
<thead>
<tr>
<th></th>
<th>Frequency (n)</th>
<th>Percent (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very Negative</td>
<td>1</td>
<td>2.4</td>
</tr>
<tr>
<td>Neutral</td>
<td>17</td>
<td>40.5</td>
</tr>
<tr>
<td>Positive</td>
<td>16</td>
<td>38.1</td>
</tr>
<tr>
<td>Very Positive</td>
<td>8</td>
<td>19</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>42</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

4.3.5 QM on Employee Job Satisfaction

As shown in Figure 4.7 the results when the respondents were asked to indicate what they perceived as the nature of the effect of QM on employee job satisfaction. One respondent (2.4%) thought QM had a “Very Negative” on employee job satisfaction, 15 (35.7%) were “Neutral”, 18 (42.9%) thought the effect was “Positive” while 8 (19%) thought the effect was “Very Positive”.

41
4.3.5 QM on Employee Skills Acquisition

Table 4.7 shows the results when the respondents were asked to indicate the nature of the effect of QM on employee skills acquisition. One respondent (2.4%) thought it had a “Very Negative” effect, 6 (14.3%) thought the effect was “Negative”, 4 (9.5%) were “Neutral”, 19 (45.2%) thought the effect was “Positive” and 12 (28.6%) thought the effect was “Very Positive”.

Table 4.7: QM on Employee Skills Acquisition

<table>
<thead>
<tr>
<th></th>
<th>Frequency (n)</th>
<th>Percent (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very Negative</td>
<td>1</td>
<td>2.4</td>
</tr>
<tr>
<td>Negative</td>
<td>6</td>
<td>14.3</td>
</tr>
<tr>
<td>Neutral</td>
<td>4</td>
<td>9.5</td>
</tr>
<tr>
<td>Positive</td>
<td>19</td>
<td>45.2</td>
</tr>
<tr>
<td>Very Positive</td>
<td>12</td>
<td>28.6</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>42</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

4.3.6 QM on Employee Empowerment in Task Performance

The researcher asked the respondents to indicate what they thought was the nature of effect of QM on employee empowerment. As shown in Figure 4.8, 3 respondents (7.1%) thought it had a “Very Negative” effect, 4 (9.5%) a “Negative” effect, 19 (45.2%) a “Positive” effect and 10 (23.8%) thought it had a “Very Positive” effect while 6 (14.3%) were “Neutral”
4.3.7 QM on Employee Teamwork Participation

Table 4.8 shows the findings when the respondents were asked to indicate what they thought was the nature of the effect of QM on employee teamwork and participation. Five respondents (11.9%) thought the effect was “Very Negative”, 2 (4.8%) “Negative”, 19 (45.2%) “Positive” and 12 (28.6%) thought the effect was “Very Positive”. Four respondents (9.5%) were “Neutral”.

Table 4.8: QM on Employee Teamwork Participation

<table>
<thead>
<tr>
<th>Nature of Effect</th>
<th>Frequency (n)</th>
<th>Percent (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very Negative</td>
<td>5</td>
<td>11.9</td>
</tr>
<tr>
<td>Negative</td>
<td>2</td>
<td>4.8</td>
</tr>
<tr>
<td>Neutral</td>
<td>4</td>
<td>9.5</td>
</tr>
<tr>
<td>Positive</td>
<td>19</td>
<td>45.2</td>
</tr>
<tr>
<td>Very Positive</td>
<td>12</td>
<td>28.6</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>42</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

4.3.8 QM on Employee Creativity in the Firm

Figure 4.9 is indicative of study results when respondents were asked to indicate nature of effect of QM on their creativity. One respondent (2.4%) thought it had a “Very Negative” effect, 2 (4.8%) “Negative”, 12 (28.6%) “Positive” and 10 (23.8%) thought it had a “Very Positive” effect. The rest, 17 (40.5%) were “Neutral”.

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Figure 4.9: QM on Employee Creativity in the Firm

4.3.9 QM on Satisfaction with the Firm

Table 4.9 shows study results when respondents were asked to indicate the nature of QM on their satisfaction with their firm. One respondent (2.4%) thought QM had a “Very Negative” effect on satisfaction with firm, 14 (33.3%) thought the effect was “Positive” and 11 (26.2%) thought the effect was “Very Positive” while 16 (38.1%) were “Neutral.

Table 4.9: QM on Satisfaction with the Firm

<table>
<thead>
<tr>
<th>Nature of Influence</th>
<th>Frequency (n)</th>
<th>Percent (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very Negative</td>
<td>1</td>
<td>2.4</td>
</tr>
<tr>
<td>Neutral</td>
<td>16</td>
<td>38.1</td>
</tr>
<tr>
<td>Positive</td>
<td>14</td>
<td>33.3</td>
</tr>
<tr>
<td>Very Positive</td>
<td>11</td>
<td>26.2</td>
</tr>
<tr>
<td>Total</td>
<td>42</td>
<td>100</td>
</tr>
</tbody>
</table>

4.3.10 QM on Employee Overall Performance

Respondents were asked to indicate what they perceived was the nature of the influence of QM on their overall performance as firm’s employees. One respondent (2.4%) thought the effect was “Very Negative”, 16 (38.1%) “Positive”, 12 (28.6%) “Very Positive” while 13 (31%) were “Neutral”. The results are shown in Figure 4.10.
The researcher also sought to examine the effect of QM on customer satisfaction. This part provides the responses which were obtained on the various questions that were asked in this regard.

### 4.4.1 QM on Customer Loyalty towards Firm

The researcher asked the respondents effect of QM on customer loyalty towards the firm. As shown in Table 4.10, 15 respondents (35.7%) thought the effect was of QM on customer loyalty was “Very High”, 12 (28.6%) thought it was “High” and 15 (35.7%) indicated they were “Neutral”.

#### Table 4.10: QM on Customer Loyalty towards Firm

<table>
<thead>
<tr>
<th></th>
<th>Frequency (n)</th>
<th>Percent (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very High</td>
<td>15</td>
<td>35.7</td>
</tr>
<tr>
<td>High</td>
<td>12</td>
<td>28.6</td>
</tr>
<tr>
<td>Neutral</td>
<td>15</td>
<td>35.7</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>42</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

### 4.4.2 QM on Customer Satisfaction with Firm

Figure 4.11 shows respondents’ perception of the degree of the effect of QM on customer satisfaction with the firm. Twenty-One respondents (50%) thought QM had a “Very High” impact on customer satisfaction, 14 (33.3%) though the impact was “High”, 2 (4.8%) thought it was “Low” while 5 (11.9%) were “Neutral”.

Figure 4.10: QM on Employee Overall Performance

4.4 The Influence of QM on Customer Satisfaction

The researcher also sought to examine the effect of QM on customer satisfaction. This part provides the responses which were obtained on the various questions that were asked in this regard.
4.4.3 QM on Customers’ Belief in Firm's Brand

The respondents were asked to indicate whether they thought the effect of QM on customers’ belief in Firm’s brand was high or low. Nineteen respondents (45.2%) thought the impact was “Very High”, 18 (42.9%) “High” while 5 (11.9%) were “Neutral”. The results are as shown in Table 4.11.

Table 4.11: QM on Customers’ Belief in Firm's Brand

<table>
<thead>
<tr>
<th></th>
<th>Frequency (n)</th>
<th>Percent (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very High</td>
<td>19</td>
<td>45.2</td>
</tr>
<tr>
<td>High</td>
<td>18</td>
<td>42.9</td>
</tr>
<tr>
<td>Neutral</td>
<td>5</td>
<td>11.9</td>
</tr>
<tr>
<td>Total</td>
<td>42</td>
<td>100</td>
</tr>
</tbody>
</table>

4.4.4 QM on Customer Expectations of the Firm

Figure 4.12 shows the study results when respondents were asked to indicate whether they thought the effect of QM on customers’ expectations of the firm was high or low. As shown, 22 respondents (52.4%) thought the impact was “Very High”, 11 (26.2%) “High” and 9 (21.4%) were “Neutral”.

46
4.4.5 QM on Firm’s Market Share

Respondents were asked to indicate whether they thought the effect of QM on Firm’s market share was high or low. As shown in Table 4.12, 10 respondents (23.8%) thought the impact was “Very High” and 15 (35.7%) “High” thought the impact was while 17 (40.5%) were “Neutral”.

Table 4.12: QM on Firm’s Market Share

<table>
<thead>
<tr>
<th></th>
<th>Frequency (n)</th>
<th>Percent (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very High</td>
<td>10</td>
<td>23.8</td>
</tr>
<tr>
<td>High</td>
<td>15</td>
<td>35.7</td>
</tr>
<tr>
<td>Neutral</td>
<td>17</td>
<td>40.5</td>
</tr>
<tr>
<td>Total</td>
<td>42</td>
<td>100</td>
</tr>
</tbody>
</table>

4.4.6 QM on Customers’ Attitude towards the Firm

Figure 4.13 shows the results when the respondents were asked whether they perceived the impact of customer QM on customers’ attitude towards the firm as being high or low. Thirteen respondents (31%) though it was “Very High”, 22 (52.4%) “High” and 7 (16.7%) were “Neutral”.
4.4.7 QM on Customer Relations

Table 4.13 shows the results when the respondents were asked whether they perceived the effect of QM on customer relations to be high or low. Ten respondents (23.8%) thought it was “Very High”, 17 (40.5%) “High” and 2 (4.8%) thought the impact was “Low” while 13 (31%) were “Neutral”.

Table 4.13: QM on Customer Relations

<table>
<thead>
<tr>
<th>Frequency (n)</th>
<th>Percent (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very High</td>
<td>10</td>
</tr>
<tr>
<td>High</td>
<td>17</td>
</tr>
<tr>
<td>Neutral</td>
<td>13</td>
</tr>
<tr>
<td>Low</td>
<td>2</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>42</strong></td>
</tr>
</tbody>
</table>

4.4.8 QM on Customers’ Likelihood to Recommend Firm to Others

The researcher asked the respondents to indicate whether they considered the impact of QM on customers’ likelihood to recommend others to the firm. As indicated in Figure 4.14, 2 respondents (4.8%) thought the impact was “Low”, 16 (38.1%) thought it was “High” and 17 (40.5%) thought the effect was “Very High” while the rest, 7 respondents (16.7%) indicated they were “Neutral”.

48
4.4.9 QM on Meeting Customers’ Expectations

Table 4.14 shows the findings when the respondents were asked to indicate whether QM had a low or high impact on customers’ expectations. Nineteen respondents (45.2%) thought it had a “Very High” impact, 17 (40.5%) thought the impact was “High” and 2 (4.8%) thought the effect was “Low” while 4 (9.5%) were “Neutral”.

Table 4.14: QM on Meeting Customers’ Expectations

<table>
<thead>
<tr>
<th>Impact</th>
<th>Frequency (n)</th>
<th>Percent (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very High</td>
<td>19</td>
<td>45.2</td>
</tr>
<tr>
<td>High</td>
<td>17</td>
<td>40.5</td>
</tr>
<tr>
<td>Neutral</td>
<td>4</td>
<td>9.5</td>
</tr>
<tr>
<td>Low</td>
<td>2</td>
<td>4.8</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>42</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

4.4.10 QM on Firm’s Response to Customer Concerns and Complaints

Figure 4.15 shows the study findings when the respondents were asked whether QM had a low or high impact on firm’s response to customer concerns and complaints. Eight respondents (19%) were “Neutral”, 20 (47.6%) thought the impact was “High” while 14 (33.3%) thought that the impact was “Very High”.

49
4.5 Effect of QM on Organizational Processes

The study also sought to determine the impact of QM on organizational processes. As such, the respondents were asked to respond to questions that would help achieve this objective. This part of the chapter discusses the results which were obtained.

4.5.1 QM on Communication within the Firm

The respondents were asked their opinion on whether they perceived the impact of QM on communication within the firm as high or low. As indicated in Table 4.15, 15 respondents (35.7%) thought it was “Very High”, another 15 (35.7%) “High” and 2 (4.8%) “Low” while 10 (23.8%) were “Neutral”.

Table 4.15: QM on Communication within the Firm

<table>
<thead>
<tr>
<th></th>
<th>Frequency (n)</th>
<th>Percent (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very High</td>
<td>15</td>
<td>35.7</td>
</tr>
<tr>
<td>High</td>
<td>15</td>
<td>35.7</td>
</tr>
<tr>
<td>Neutral</td>
<td>10</td>
<td>23.8</td>
</tr>
<tr>
<td>Low</td>
<td>2</td>
<td>4.8</td>
</tr>
<tr>
<td>Total</td>
<td>42</td>
<td>100</td>
</tr>
</tbody>
</table>
4.5.2 QM on Communication with Customers

Figure 4.16 shows the study findings when respondents asked their opinion on whether they perceived the impact of QM on communication within the firm as high or low. Ten (23.8%) and 15 (35.7%) respondents thought it was “Very High” and “High” respectively, 1 (2.4%) thought the impact was “Low” while 16 (38.1%) were “Neutral”.

![Figure 4.16: QM on Communication with Customers](image)

4.5.3 QM on Organizational Decision-Making Processes

The respondents were asked whether considered QM has a high or low impact on firm’s organizational decision-making processes. Thirteen respondents 13 (31%) and 21 (50%) thought that the impact of QM on decision-making was “Very High” and “High” respectively, 2 (4.8%) thought it was “Low” while 6 (14.3%) were “Neutral”. The results are shown in Table 4.16.

**Table 4.16: QM on Organizational Decision-Making Processes**

<table>
<thead>
<tr>
<th></th>
<th>Frequency (n)</th>
<th>Percent (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very High</td>
<td>13</td>
<td>31.0</td>
</tr>
<tr>
<td>High</td>
<td>21</td>
<td>50</td>
</tr>
<tr>
<td>Neutral</td>
<td>6</td>
<td>14.3</td>
</tr>
<tr>
<td>Low</td>
<td>2</td>
<td>4.8</td>
</tr>
<tr>
<td>Total</td>
<td>42</td>
<td>100</td>
</tr>
</tbody>
</table>
4.5.4 QM on Organizational Learning

Figure 4.17 shows the results when the respondents were asked whether the effect of WM on organization learning was high or low. Four respondents (9.5%) indicated “Low”, 27 (64.3%) indicated “High”, 7 (16.7%) indicated “Very High” while 4 (9.5%) indicated “Neutral”.

![Figure 4.17: QM on Organizational Learning](image)

4.5.5 QM on Organizational Strategic Planning

The respondents were asked whether the impact of QM on organizational strategic planning was high or low. Nineteen respondents (45.2%) indicated it was “Very High”, 17 (40.5%) “High”, 2 (4.8%) “Low” and 4 (9.5%) indicated “Neutral”. Table 4.17 is indicative of the findings.

Table 4.17: QM on Organizational Strategic Planning

<table>
<thead>
<tr>
<th></th>
<th>Frequency (n)</th>
<th>Percent (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very High</td>
<td>19</td>
<td>45.2</td>
</tr>
<tr>
<td>High</td>
<td>17</td>
<td>40.5</td>
</tr>
<tr>
<td>Neutral</td>
<td>4</td>
<td>9.5</td>
</tr>
<tr>
<td>Low</td>
<td>2</td>
<td>4.8</td>
</tr>
<tr>
<td>Total</td>
<td>42</td>
<td>100</td>
</tr>
</tbody>
</table>
4.5.6 QM on Organizational Monitoring and Evaluation

Figure 4.18 shows the study results when the respondents were asked whether they considered impact of QM on M&E as being high or low. Nineteen respondents (45.2%) indicated “Very High”, 21 (50%) “High” and 2 (4.8%) indicated that the impact of QM on M&E was “Low”.

![Figure 4.18: QM on Organizational Monitoring and Evaluation](image)

4.5.7 QM on Organizational Administrative Processes

Table 4.18 shows results when respondents were asked their opinion on whether the impact of QM on the firm’s administrative process was high or low. As shown, 19 (45.2%) indicated it was “Very High”, 17 (40.5%) “High” and 2 (4.8%) “Low” while 4 (9.5%) were “Neutral”.

Table 4.18: QM on Organizational Administrative Processes

<table>
<thead>
<tr>
<th>Frequency (n)</th>
<th>Percent (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very High</td>
<td>19</td>
</tr>
<tr>
<td>High</td>
<td>17</td>
</tr>
<tr>
<td>Neutral</td>
<td>4</td>
</tr>
<tr>
<td>Low</td>
<td>2</td>
</tr>
<tr>
<td>Total</td>
<td>42</td>
</tr>
</tbody>
</table>

4.5.8 QM on Assigning Tasks within the Firm
The researcher asked the respondents whether the effect of QM on assigning tasks within the firm was low or high. As shown in Figure 4.19, 11 respondents (26.2%) indicated “Very High”, 21 (50) “High” and 4 (9.5%) “Low” while 6 (14.3%) indicated they were “Neutral”.

![Figure 4.19: QM on Assigning Tasks within the Firm](image)

### 4.5.9 QM on Managing Employee Relations

Table 4.19 shows the study results when the respondents were asked whether the impact of QM on employee relations was high or low. Nine respondents (21.4%) thought it was “Very High”, 10 (23.8%) “High”, another 10 (23.8%) “Low” while 13 (31%) were “Neutral”.

<table>
<thead>
<tr>
<th></th>
<th>Frequency (n)</th>
<th>Percent (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very High</td>
<td>9</td>
<td>21.4</td>
</tr>
<tr>
<td>High</td>
<td>10</td>
<td>23.8</td>
</tr>
<tr>
<td>Neutral</td>
<td>13</td>
<td>31</td>
</tr>
<tr>
<td>Low</td>
<td>10</td>
<td>23.8</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>42</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

### 4.5.10 QM on Organizational Operations

Figure 4.20 shows study results when respondents were asked whether QM had a high or low effect on organizational operations. Fifteen respondents (35.7%) thought it had a “Very
“High” effect, 19 (45.2%) a “High” effect and 2 (4.8%) a “Low” effect while 6 (14.3%) were “Neutral”.

![Figure 4.20: QM on Organizational Operations](image)

4.6 Correlation Analysis Dependent and Independent Variables

The researcher conducted more in-depth analysis of the data to assess the nature of relationships between the dependent variable (DV) and the independent variable (IV). As such, correlation analysis was carried out between QMS and staff performance, customer satisfaction and organizational processes. This part of the chapter provides the results of the correlation analysis.

4.6.1 QMS and Staff Performance

A correlation analysis was carried out between QMS and staff performance to determine the nature of relationship between the two variables. A Pearson co-efficient value, $r = .274$, $p < 0.01$ was obtained indicating the QMS and staff performance are positively correlated. However, the $r$ value despite being positive is weak, which is probably indicative that there are other contravening variables affecting staff performance of which QMS is just a part. The results are as shown in Table 4.20.
Table 4.20: Correlation of QMS and Staff Performance

<table>
<thead>
<tr>
<th>QMS</th>
<th>Pearson Correlation</th>
<th>Sig. (2-tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
<td>.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Staff Performance</th>
<th>Pearson Correlation</th>
<th>Sig. (2-tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0.274</td>
<td>0.079</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>42</td>
</tr>
</tbody>
</table>

**Correlation is significant at the 0.01 level (2-tailed).**

4.6.2 Correlation of QMS and Customer Satisfaction

The researcher also conducted a correlation analysis between QMS and customer satisfaction to determine the nature of the relationship between the two. The A Pearson coefficient value, r = .599, p < .05 was obtained indicating a positive moderate relationship between QMS and customer satisfaction. This suggest that an increase in QMS would result in a positive increase in customer satisfaction level. However, the coefficient is not a perfect correlation (of 1) due to the possible presence of other contravening variables that could influence and predict the level of customer satisfaction. The results are as shown in Table 4.21.

Table 4.21: Correlation of QMS and Customer Satisfaction

<table>
<thead>
<tr>
<th>QMS</th>
<th>Pearson Correlation</th>
<th>Sig. (2-tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
<td>.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Customer Satisfaction</th>
<th>Pearson Correlation</th>
<th>Sig. (2-tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0.599</td>
<td>2.77097E-05</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>42</td>
</tr>
</tbody>
</table>

*Correlation is significant at the 0.05 level (2-tailed).
4.6.3 Correlation of QMS and Organizational Processes

A correlation analysis was carried out between QMS and organizational processes to determine the nature of relationship between the two variables. A Pearson co-efficient value, \( r = 0.304 \), \( p < 0.01 \) was obtained indicating the QMS and staff performance are positively correlated. Again, the \( r \) value despite being positive is weak, which could be indicative of the fact that there are other contravening variables affecting organizational processes in addition to QMS. The results are as shown in Table 4.22.

Table 4.22: Correlation of QMS and Organizational Processes

<table>
<thead>
<tr>
<th></th>
<th>Pearson Correlation</th>
<th>Sig. (2-tailed)</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>QMS</td>
<td>1</td>
<td>.</td>
<td>42</td>
</tr>
<tr>
<td>Organizational</td>
<td>0.304</td>
<td>0.050</td>
<td>42</td>
</tr>
<tr>
<td>Processes</td>
<td>1</td>
<td>.</td>
<td>42</td>
</tr>
</tbody>
</table>

*Correlation is significant at the 0.05 level (2-tailed).

4.8 Regression Analysis

A regression analysis was also done to assess the effect of QMS on organizational productivity. The independent variable was QMS and the dependent variables were; staff performance, customer satisfaction and organizational processes. Table 4.19 shows the results of the regression analysis (model) for staff performance, customer satisfaction and organizational processes.

4.8.1 Regression Model Summary for Organizational Productivity

From the table (4.24) it can be deduced that the R Square value for the model is .391 indicating that 39.1% of the variance or change in the model is accounted for by staff performance, customer satisfaction and organizational processes.
Table 4.23: Regression Model Summary for Organizational Productivity

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0.625</td>
<td>0.391</td>
<td>0.343</td>
<td>0.524</td>
</tr>
</tbody>
</table>

a Predictors: (Constant), Staff Performance, Customer Satisfaction and Organizational Processes

4.8.2 ANOVA Analysis for Organizational Performance

QMS (the independent variable) predicts the dependent variables (Staff Performance, Customer Satisfaction and Organizational Processes), $F(3, 38) = .000$. This means that the model has explanatory power that is QMS help account for organizational productivity. Hence, it can be concluded that the model is significant $p = .000$. The results are shown in Table 4.24.

Table 4.24: ANOVA Analysis for Organizational Productivity

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Regression</td>
<td>6.698</td>
<td>3</td>
<td>2.233</td>
<td>8.122</td>
</tr>
<tr>
<td></td>
<td>Residual</td>
<td>10.445</td>
<td>38</td>
<td>0.275</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>17.143</td>
<td>41</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a Predictors: (Constant), Staff Performance, Customer Satisfaction and Organizational Processes
b Dependent Variable: QM

4.8.3 Regression Coefficient Analysis for QMS

A multiple regression analysis was conducted to assess the nature of relationship between the dependent variables (staff performance, customer satisfaction and organizational processes) and the independent variable (QMS). The results of the multiple regression are shown in Table 4.24.
Table 4.25: Regression Coefficient Analysis for Organizational Productivity

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>T</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>(Constant)</td>
<td>-0.150</td>
<td>0.415</td>
<td>-0.362</td>
</tr>
<tr>
<td></td>
<td>Staff Performance</td>
<td>0.120</td>
<td>0.094</td>
<td>0.167</td>
</tr>
<tr>
<td></td>
<td>Customer Satisfaction</td>
<td>0.390</td>
<td>0.107</td>
<td>0.521</td>
</tr>
<tr>
<td></td>
<td>Organizational Processes</td>
<td>0.084</td>
<td>0.108</td>
<td>0.108</td>
</tr>
<tr>
<td>a</td>
<td>Dependent Variable: QMS</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The general equation that can be used to predict the effect of QMS on organizational productivity is:

\[ Y = -0.150 + 0.120 \times \text{Staff Performance} + 0.390 \times \text{Customer Satisfaction} + 0.084 \times \text{Organizational Processes} \]

This equation suggests that the coefficient for staff performance is 0.120, which further implies that for every single change in QMS an increase in staff performance of 0.120 can be anticipated with all factors held constant and at a constant of -0.50. At the same time the equation suggests that the coefficient for customer satisfaction is 0.390 indicating that an increase in QMS will result in customer satisfaction by a factor of 0.390 with all factors held constant. Additionally, the equation also suggests that coefficient for organizational process is 0.084. Suggesting that for every single change in QMS an increase in organizational processes by a factor of 0.084 can be anticipated with all factors held constant and at a constant of -0.50. From the three variables the study considered; Staff Performance, Customer Satisfaction and Organizational Processes. Only customer satisfaction was significant with \( p = 0.001 \).
4.9 Chapter Summary

This chapter has presented the study results and findings. It has provided study findings regarding each objective of the study according to the specific questions asked under each objective in the questionnaire. The chapter has used a combination of descriptive statistics including frequency distribution tables (or frequency tables), pie charts, bar graphs and bar charts. The study has also used inferential statistics to conduct further analyses on the data and to conduct more in-depth analysis of the data that was collected. The inferential analyses have mainly focused on correlation analysis and regression as well as ANOVA. These were aimed at providing further understanding of the data and for making inferences regarding how the variables are correlated.
CHAPTER FIVE

5.0 DISCUSSION, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This Chapter is the final chapter of the study. It provides the study summary, the discussion of the key findings of the study, the conclusion of the study and the recommendations for improvement and for further studies.

5.2 Summary of the Study

The general objective of the study is to investigate the effect of QM on the productivity. The study sought to realize three objectives, namely; to investigate the effect of QM on staff performance of Kenyan engineering firms, to determine the influence of QM on customer satisfaction of Kenyan engineering firms, and to examine the effect of QM on organizational processes of Kenyan engineering firms.

The study employed the use of an explanatory research design. The population for the current study comprised of 60 engineering firms operating in Nairobi of which 53 were sampled for the study. The researcher used simple random sampling technique to collect data from the target population. The data collection method was the use of structured questionnaires and each questionnaire comprised of 33 questions. The quantitative method of data analysis used was both descriptive and inferential analyses. Further associations between the variable were conducted by the use of Statistical Package for Social Sciences (SPSS) program, through which Correlations, ANOVA and regression were conducted among relevant variables to permit further interpretation of the data.

The study found that virtually all the sampled firms had implemented QM with 95% of the respondents indicating there organization had QMS. It established that the QMS were used in almost all the operational areas with 71.4% indicating that the systems were used in all areas and 23.8% indicating that QMS was used in “Design and Project Management”. The study also found that while all areas of specialization were presented in the study, the majority were “Civil Engineers” at 54.8% followed by “Survey and Mapping” at 19%.
The following findings were made regarding the impact of QMS on staff performance. The study established that "Employee Motivation" was the most highly ranked aspect of organizational performance affected by QMS with 73.8%, followed by "Employee Participation in Management" with 71.4%. While "Employee Satisfaction" was ranked last with 59.5%. The study found that the majority of the respondents 66.7% thought the effect of QMS on their overall participation was positive and 61.9% considered QMS to have a positive impact on their morale towards task performance. It found that a significant number, 57% thought QMS had a positive effect on their participation in management and that 61.9% considered it to impact on their job satisfaction positively. The study found further that 73.8% of the respondents perceived QMS to affect their teamwork participation positively while 69% and 73.8% thought the effect of QMS on their empowerment and skills acquisition respectively was positive. It found that the effect of QMS on creativity, satisfaction with firm and overall employee performance was considered to be positive by 64.3%, 59.5% and 66.7% respectively.

The study made the following findings concerning the impact of QMS on customer satisfaction. It established that 64.3% of the respondents thought QMS had a high impact on customer loyalty. It found that 83.3% and 4.8% of the respondents thought the effect of QMS on customer satisfaction with the firm was high and low respectively. It established that 88.1% and 78.6% considered impact of QMS on customers’ belief in firm’s brand and customers’ expectations of the firm to be high respectively in each case the rest were neutral. It found that 59.5% and 83.4% perceived effect of QMS on firm’s market share and customers’ attitude towards the firm to be high respectively. It further found that 64.3% considered QMS to affect customer relations highly. Eighty-five-point-seven of the respondents though effect of QMS on meeting customers’ expectations was high while 9.5% thought the effect was low while 80.9% of the respondents viewed effect of QMS on firm's response to customer concerns and complaints to be high.

The study made the following findings concerning the effect of QMS on organizational processes. The study found that 71.4% and 4.8% of the respondents considered effect of QMS on communication within the firm to be high and low respectively. It found that 59.5% and 2.4% of the respondent viewed QMS to have a high and low impact respectively on Firm’s communication with customers. At the same time it determined that 81% and 4.8% considered effect of QMS on decision-making within the firm to be high and low.
respectively. It further established that while 9.5% of respondents perceived effect of QMS on organizational learning to be low, 81% considered it high. On organizational strategic planning 85.7% considered the effect of QMS to be high and 4.8% considered it to be low. The study found 95.2% and 85.7% of the respondents viewed QMS to have a high impact on monitoring and evaluation, and administrative process respectively. In both cases, 4.8% considered the effects to be low. The study found that 45.2% and 9.5% of the respondents considered effect of QMS on managing employee relations to be high and low respectively and that 80.9% though the effect of QM on organizational performance was high.

A correlation analysis was carried out between QMS and staff performance, customer satisfaction and organizational processes to determine the nature of the relations between QMS and each of the three dependent variables. The study found that Pearson correlation co-efficient values for QMS and staff performance, customer satisfaction and organizational processes were: $r = 0.274, p < 0.01$, $r = 0.599, p < .05$ and $r = 0.304, p < 0.01$, indicating that each of the variables was positively correlated with QMS and that customer satisfaction had the strongest positive association with QMS of the three variables. A regression analysis was also done to assess the effect of QMS on organizational productivity. It was found that the R Square value for the model was .391 indicating that 39.1% of the variance or change in the model is accounted for by staff performance, customer satisfaction and organizational processes. The study established that QMS (the independent variable) predicts the dependent variables (Staff Performance, Customer Satisfaction and Organizational Processes), $F (3, 38) = 0.000$. This means that the model has explanatory power that is QMS help account for organizational productivity.

5.3 Discussions

5.3.1 Effect of QM on Staff Performance

Numerous previous empirical studies have suggested a positive impact of QM on employee motivation and task performance (Joiner, et al., 2012). Such studies have argued that the implementation of QM within an organizational environment, which is supportive, has the capacity to inspire and employees to work smarter and harder towards the realization of organizational production and quality objectives (Jaafreh & Al-Abedallat, 2013). This study has confirmed these previous studies when established that Employee Motivation” was the most highly ranked aspect of organizational performance affected by QMS with
73.8%, followed by “Employee Participation in Management” with 71.4%. While “Employee Satisfaction” was ranked last with 59.5%. The reason why the study has corroborated these previous studies is probably due to the fact that QM facilitates employee motivation as it inspires them to achieve quality outputs as well as focus on the realization of customer satisfaction (Joiner, et al., 2012). Osabiya (2015) has opined that QMS has inherent attributes including group dynamics, equality, internalization and identity among others that are core to employee motivation.

However, the current study seems to disconfirm or rather only confirm to an extent the salience of employee empowerment as being resulting from QMS implementation. In fact, in the current study, employee empowerment has been ranked as the second least important aspect of employee performance affected by QMS. As such, the study does not agree with the argument advanced by Masood, et al. (2016) that QMS encourage employee empowerment through positive transformations in the character and skill’s set of individual. It further disconfirms the argument by Joiner (2017) that the basic elements of QM comprise of inter-personal exchanges such as effective communication, teamwork, creativity, participative management, employee involvement or participation, which are critical aspects of employee empowerment.

More problematic, is also the fact that the study found that the majority of the respondents 66.7% thought the effect of QMS on their overall participation was positive and 61.9% considered QMS to have a positive impact on their morale towards task performance. Employee participation is undoubtedly part and parcel of empowerment. Nonetheless, the study corroborates Ngambi and Nkeniafu’s (2015) study which found that QM practices demand a continuous training of employees to enable them to perform their tasks more efficiently. Similar results have also been found by Boon, et al., (2016) who determined that QM create opportunities for employee training and job learning, which increases the skills levels of employees making them more effective and efficient in performing work-related tasks (Boon, et al., 2016).

The study found that a significant number, 57% thought QMS had a positive effect on their participation in management. This is a confirmation of previous findings including that by Jha (2012) which determined the existence of a positive association between QMS and participative management. In a study conducted by Ngambi and Nkeniafu (2015), staff participation was found to be positively related to employee productivity and motivation.
The study also found that 61.9% considered it to impact on their job satisfaction positively. Ngambi and Nkeniafu (2015) observe that QM facilitates the realization of better treatment of the employees by the firm’s management as they realize that employees are key to effective implementation of all elements of QM.

The study found further that 73.8% of the respondents perceived QMS to affect their teamwork participation positively while 69% and 73.8% thought the effect of QMS on their empowerment and skills acquisition respectively was positive. Employee participation in teams or task groups has also been found to be important in helping employees share job-related knowledge sharing, problem identification and problem solving, and allow employees to derive a comprehensive conceptualization and appreciation of their roles in the overall process. It is therefore, apparent how QM facilitates productivity both at employee level and at organizational level by encouraging employees’ active.

5.3.2 The Influence of QM on Customer Satisfaction

It found that 83.3% and 4.8% of the respondents thought the effect of QMS on customer satisfaction with the firm was high and low respectively. This finding is in partial confirmation of the arguments put forward by Chan, et al., (2013), Ogbari and Taiye (2015) who have argued that QMS results in higher product and service qualities which encourage not only customer satisfaction but loyalty as well. The study also established that 64.3% of the respondents thought QMS had a high impact on customer loyalty.

These finding are supported by previous literature including that by Ogbari and Taiye (2015) who argued that QM results in improved customer satisfaction across cultural settings and diverse industries. Sheikholeslam and Emamian (2016) conducted a study on the nature of the relationship between QM and customer satisfaction and determined that the two were positive correlated. They further determined that business units that had adopted QM practices had more customers than those that had not. In yet another study conducted it was found that QM had a positive impact on customer satisfaction levels. This further relates the study finding that 80.9% of the respondents viewed effect of QMS on firm’s response to customer concerns and complaints to be high.

This study also found that 88.1% and 78.6% considered impact of QMS on customers’ belief in firm’s brand and customers’ expectations of the firm to be high respectively. Manani, et al., (2016) have argued that QM exists to facilitate company’s ability to achieve
and exceed customer expectation and that dissatisfied customers often tend to discontinue conducting business with the organization. QMS encourages the firm to assume a customer approach to conducting business. Bahri, et al., (2012) found that a customer focus approach in QM allow the firm to concentrate on improving process and implementing policies that aim at achieving customer satisfaction. This study is therefore verifies previous findings on the relationship between QMS and customer brand loyalty and expectations.

In fact, as Boon, et al., (2016), Chong and Rundus (2014) customer focus, QA and QI are all aimed at attaining customer expectations. Therefore, it seems that the study has corroborated some previous studies that have examined the link between customer expectations of brand and QMS. Bahri, et al., (2012) found that a customer focus approach in QM allow the firm to concentrate on improving process and implementing policies that aim at achieving customer satisfaction.

The study also found a link between QMS and market share. It determined that 59.5% and 83.4% perceived effect of QMS on firm’s market share and customers’ attitude towards the firm to be high respectively. This is corroborated by previous scholars including Dalota (2013) who has postulated that through QM, firms cannot only realize greater productivity but can achieve greater market share and productivity as well. Empirical studies have revealed that QM is significant in facilitating organizational improvement in terms of market share in a competitive business environment (Chong & Rundus, 2014; Jha, 2012). The study further found that 64.3% considered QMS to affect customer relations highly.

5.3.3 Effect of QM on Organizational Processes

The study found that 71.4% and 4.8% of the respondents considered effect of QMS on communication within the firm to be high and low respectively. Empirical evidence also exists linking QM to effective organizational communication (Bahri, et al., 2012). Reynolds (2013) considers QM through the Enterprise Resource Planning (ERP) systems and argues that QM practices implemented through the ERP systems improve communication strategies. Indeed, this can be perceived to be true considering that employees can are able to receive communication in real time and record previous communications. Guney, et al., (2012), Ogbari and Taiye (2015) argue that the effectiveness or success of QM is contingent on internal stakeholders’ communication, that is, employees’ communication skills.
Invariably, firms implementing QM must train their employees on effective communication skills. Naturally, such training is important in helping the firm achieve efficiency in the communication process, a crucial factor for general productivity (George, et al., 2013). The study found that 59.5% and 2.4% of the respondent viewed QMS to have a high and low impact respectively on Firm’s communication with customers. This finding is also very significant in that it implies that the effect of QMS on communication is both in terms of influencing how the firm communicates internally with its internal customer and employees but also on organization’s external communication with its customers.

According to Jha (2012), participative management and the teamwork, approaches that are implemented under QM systems allow the realization of broader perspectives from employees, which facilitate decision-making. This study found that 81% and 4.8% considered effect of QMS on decision-making within the firm to be high and low respectively. This indicates that QMS is an important contributor to the decision-making probably due to availability of important information. Joiner (2017) contends that effective QM is one that allows the firm’s top management and leadership to obtain a multiplicity of view and perspectives from the employees and other external stakeholders through an effective communication system. Abdulai and Saflwu (2014) explain that PDM within QM system implies the degree to which employees are encouraged to participate and share in the general decision-making process.

It further established that while 9.5% of respondents perceived effect of QMS on organizational learning to be low, 81% considered it high. Moreno, et al., (2009, cited in Chen-Ying & Hsu-Hua, 2015) used an empirical data collected from some 202 managers of quality and found that there exists a strong link between QM and organizational learning. Aminbeidokhti, et al., (2016) found that QM practices such as teamwork, leadership and communication have a direct impact on organizational learning. Chen-Ying and Hsu-Hua (2015) postulate that firms having implemented QM can realize the internal benefits such as productivity enhancement and improved quality as QM facilitates organizational learning. According to Chen-Ying and Hsu-Hua (2015), QM allows the firms to develop the knowledge and intelligence, and transfer it towards the promotion of a culture of information and knowledge sharing across functional teams that further lead to organizational learning.
According to Kantardjieva (2015) contends that strategic planning and QM must be synchronized or integrated to harness their benefits for productivity. On organizational strategic planning 85.7% considered the effect of QMS to be high and 4.8% considered it to be low. The study found 95.2% and 85.7% of the respondents viewed QMS to have a high impact on monitoring and evaluation, and administrative process respectively. In both cases, 4.8% considered the effects to be low.

5.4 Conclusion

5.4.1 Effect of QM on Staff Performance

The performance embodies one of the most critical and essential aspects which must be considered when talking about the internal marketing of a company. In the contemporary business environment staff performance is a source of competitive advantage for the firm. Investing in factors which promote staff performance is therefore essential. QMS accords modern firms a means of enhancing staff performance. QMS mostly facilitate staff performance through various means including the facilitation of employee motivation towards their firm and tasks, facilitation of skills acquisition, creativity and teamwork all of which result in greater productivity and profitability of the firm. When staff members are exceeding expectations in their performance of their duties the entire organization will experience growth in productivity and general performance.

5.4.2 The Influence of QM on Customer Satisfaction

The success of any business establishment highly depends on the organization’s ability to realize customer satisfaction. In the contemporary business milieu customer satisfaction is one of the principle concerns for firms even those in engineering consultancy industry. Any system that helps a firm attain customer satisfaction is therefore considered highly and must be implemented by a firm that wants to wade off competition. QMS provides a vital means of achieving customer satisfaction and loyalty. The high service quality and firm’s responsiveness to customers’ expectations associated with QMS result in customer satisfaction with the firms. Customers can also develop a positive perception of the brand image which further facilitates their level of perception of satisfaction with the firm.
5.4.3 Effect of QM on Organizational Processes

The effect of QMS on communications within the firm and with customers, the effect on the internal decision-making, strategic planning and monitoring and evaluations are all positive. This means that QMS augments and enhances organizational processes leading to smooth running of the firm resulting in enhanced levels of productivity and performance. Furthermore, by positively affecting organizational process including decision-making and firm-customer relations, QMS ensures greater financial productivity due to enhanced customer satisfaction, increased market share and customer loyalty. Some organizational process such as those in which the engineering and consultancy firms are particularly involved such as design and project management would be infeasible without an effective QMS. Furthermore, the relevance of QMS on such operational areas as finance and accounts, human resource management and inventory management is apparent as these processes would not proceed so smoothly without an elaborate system such as QMS.

5.5 Recommendations

The study makes the following recommendations for improvement and for further research based on the study findings.

5.5.1 Recommendations for Improvement

5.5.1.1 Effect of QM on Staff Performance

Human resource managers and the leadership in the engineering consultancy firms need to embrace and implement QMS as it enhances staff performance. The managers in these consultancy firms must integrate QMS in organizational processes to facilitate employee motivation, task performance and job satisfaction. The leadership of the engineering consultancy firms need to integrate QMS into their strategic human resource management to ensure that the realization of the full potential of their employees. The management and organizational leadership in the engineering consultancy firms appreciate the potential impact of QMS on the various aspects of employee performance including task performance and completion, skills acquisition, creativity, teamwork and motivation all of which have a direct impact of organizational productivity and performance.
5.5.1.2 The Influence of QM on Customer Satisfaction

The management and leadership of the engineering consultancy firms in Kenya need to acknowledge and embrace QMS for its potential positive effects on customer satisfaction. The managers need to implement QMS as part of customer strategy and aim to increase customer loyalty and satisfaction with the firm due to QMS-inspired high quality services. The management need to appreciate the connection between QMS and market share increase and must ensure that QMS is designed to generate an increase in the firm’s market share through the attainment of customer expectations.

5.5.1.3 Effect of QM on Organizational Processes

Quality managers and the top-level management in the engineering firms in Kenya should embrace QMS and implement the system. The top leadership of the engineering firms should appreciate the value of QMS to the organizational process, and embrace and integrate QMS in their strategic planning for enhanced productivity. The quality managers and top-level leaders need to implement QMS to facilitate key organizational process such as finance and accounts, project design and management, human resource management and intra-organizational communication.

5.5.2 Recommendation for Further Research

Future researchers should examine the effect that QMS has on other aspects of organizational performance such as competitive advantage, product and service quality as well financial performance. Scholars should examine why despite the demonstrated positive effect of QMS on organizational productivity, there is still very low adoption of QMS by corporations in Kenya. Future researchers should conduct a comparative study between different engineering industry to determine if the effect of QMS on organizational productivity and performance is uniform or whether there is a cross-industry differences in effect of QMS on the engineering firms in the different engineering fields.
REFERENCES


APPENDIX 1: LETTER OF INTRODUCTION

Datche Paul
Mobile Number;  
+254 –729178640  
Email Address; paul.datche@gmail.com  
2017.

Dear Sir/Madam

RE: LETTER OF INTRODUCTION

I am currently undertaking the Master of Science in Organizational Development (MOD) at USIU-A and it is a requirement in partial fulfillment of the degree curriculum that I do a project (Thesis).

My research topic is on "THE EFFECT OF QUALITY MANAGEMENT IMPLEMENTATION ON ORGANIZATIONAL PRODUCTIVITY: CASE STUDY OF KENYAN ENGINEERING FIRMS."

I have decided to select your organization as a sample of my research. I believe that the research outcome will be of immense benefit to your organization, in particular, the building engineering industry, professional associations and, future researchers and academia.

The purpose of my letter therefore is to humbly request you to give some of your time in way of responding to a questionnaire of 38 items which take a maximum of 20 minutes to respond to. The questionnaire will be brought to you personally or designated research assistance.

I wish to confirm to you that any information from will be treated with utmost confidentiality and will be used for no other purpose other than this research.

Yours Faithfully,

Datche Paul

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APPENDIX 2: QUESTIONNAIRE

THE EFFECT OF QUALITY MANAGEMENT IMPLEMENTATION ON ORGANIZATIONAL PRODUCTIVITY: A CASE STUDY OF KENYAN CONSULTING ENGINEERING FIRMS

Kindly read each query cautiously and respond to it the best of your ability, where necessary mark [√] the boxes provided. There are no accurate or inaccurate responses; your answers are crucial to the study. All replies to this survey are completely confidential. All identifying information if any will be removed during the data entry and analysis; however, you are advised to respond anonymously. The questionnaire will take an average of 20 minutes to fill. *Thank you for your participation in this study.*

PART 1: QUESTIONS ABOUT THE FIRM & YOURSELF

<table>
<thead>
<tr>
<th>1. Please indicate Consultancy area of the firm:</th>
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<td>Civil Engineering</td>
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<th>2. Please indicate age of firm/years of operation</th>
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<td>1-5</td>
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<th>3. Does the firm use any form of Quality Management System?</th>
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<td>Yes</td>
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<th>4. If yes, which operational areas utilize the system?</th>
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<tr>
<td>Finance and Accounts</td>
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</table>
PART II: ABOUT YOURSELF

5. Please indicate your area of specialization

<table>
<thead>
<tr>
<th>Civil engineering</th>
<th>Structural engineering</th>
<th>Electrical engineering</th>
<th>Mechanical engineering</th>
<th>Surveying and mapping</th>
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6. Please indicate years with the firm

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<th>5-10</th>
<th>10-15</th>
<th>15-20</th>
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7. Please indicate years of continuous work experience in your field

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<th>5-10</th>
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8. Please indicate your level of Education

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<th>Diploma</th>
<th>Higher diploma</th>
<th>Bachelors</th>
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PART II: QM AND STAFF PERFORMANCE

Aspect of Organizational performance: Please indicate your perception of importance of QMS to each

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<th>Very Important</th>
<th>Important</th>
<th>Neutral</th>
<th>Not Important</th>
<th>Least Important</th>
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<td>2</td>
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<td>5</td>
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i. Employee motivation

ii. Employee empowerment

iii. Employees’ participation in management

iv. Employee satisfaction
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<thead>
<tr>
<th>QM Impact on employees: Please indicate your perception on impact of YOUR FIRM'S QMS to each aspect</th>
<th>Very Negative</th>
<th>Negative</th>
<th>Neutral</th>
<th>Positive</th>
<th>Very Positive</th>
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<tbody>
<tr>
<td>i. Your own overall participation in the firm</td>
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<td>ii. Your own morale at task performance</td>
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<td>iii. Your own participation in management</td>
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<td>iv. Your own job satisfaction</td>
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<td>v. Your own skills acquisition</td>
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<td>vi. Your own empowerment in task performance</td>
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<td>vii. Your participation in teamwork in the firm</td>
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<td>viii. Your own creativity in the firm</td>
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<td>ix. Your own satisfaction with the firm</td>
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<td>x. Your own overall performance</td>
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**PART III: QM AND CUSTOMER SATISFACTION**

<table>
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<tr>
<th>Please indicate your perception of impact of YOUR FIRM'S QMS to each aspect</th>
<th>Very High</th>
<th>High</th>
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<td>i. Customer loyalty</td>
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<td>ii. Customer satisfaction</td>
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<td>iii. Customer belief in firm’s brand</td>
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<td>iv. Customer expectations</td>
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<td>v. Rise in market share for your firm</td>
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<td>vi. Attitude towards your firm’s services</td>
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<td>vii. Customer relations for your firm</td>
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viii. Customers’ likelihood to recommend others to your firm

 ix. Meeting customer expectations

 x. Responding to customers concerns & complaint

### PART IV: QM AND ORGANIZATIONAL PROCESSES

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<tr>
<th>Please indicate your perception of impact of YOUR FIRM’S QMS to each aspect</th>
<th>Very High</th>
<th>High</th>
<th>Neutral</th>
<th>Low</th>
<th>Very Low</th>
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<td>i. Communications within the firm</td>
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<td>ii. Communications with customers</td>
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<td>iii. Organizational decision-making processes</td>
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<td>iv. Organizational learning</td>
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<td>v. Organizational strategic planning</td>
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<td>vi. Organizational monitoring and evaluation</td>
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<td>vii. Organizational administrative process</td>
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<td>viii. Assigning tasks</td>
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<td>ix. Managing employee relations</td>
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<td>x. Organizational operations</td>
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